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VOLUME II

DRAFT PILOT TEST REPORT

INSTALLATION OF AIR SPARGING AND SOIL VAPOR EXTRACTION SYSTEMS AT SITES SS-06, SS-08 & ST-40

WURTSMITH AIR FORCE BASE OSCODA, MICHIGAN

CONTRACT No. F41624-94-D-8066 DELIVERY ORDER 0007

March 16, 1998



PREPARED FOR:
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AFB, TEXAS

AGM01-01-0369

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DRAFT

PILOT TEST REPORT

FOR

INSTALLATION OF AIR SPARGING AND

SOIL VAPOR EXTRACTION SYSTEMS

AT SITES SS-06 AND SS-08

WURTSMITH AIR FORCE BASE OSCODA, MICHIGAN

Contract No. F41624-94-D-8066 Delivery Order 0007

VOLUME II - APPENDICES

March 16, 1998

Prepared for:

Air Force Center for Environmental Excellence Brooks Air Force Base, Texas

Prepared By:

AmTech Engineering, Inc. 4343 Saguaro Trail Indianapolis, Indiana 46268

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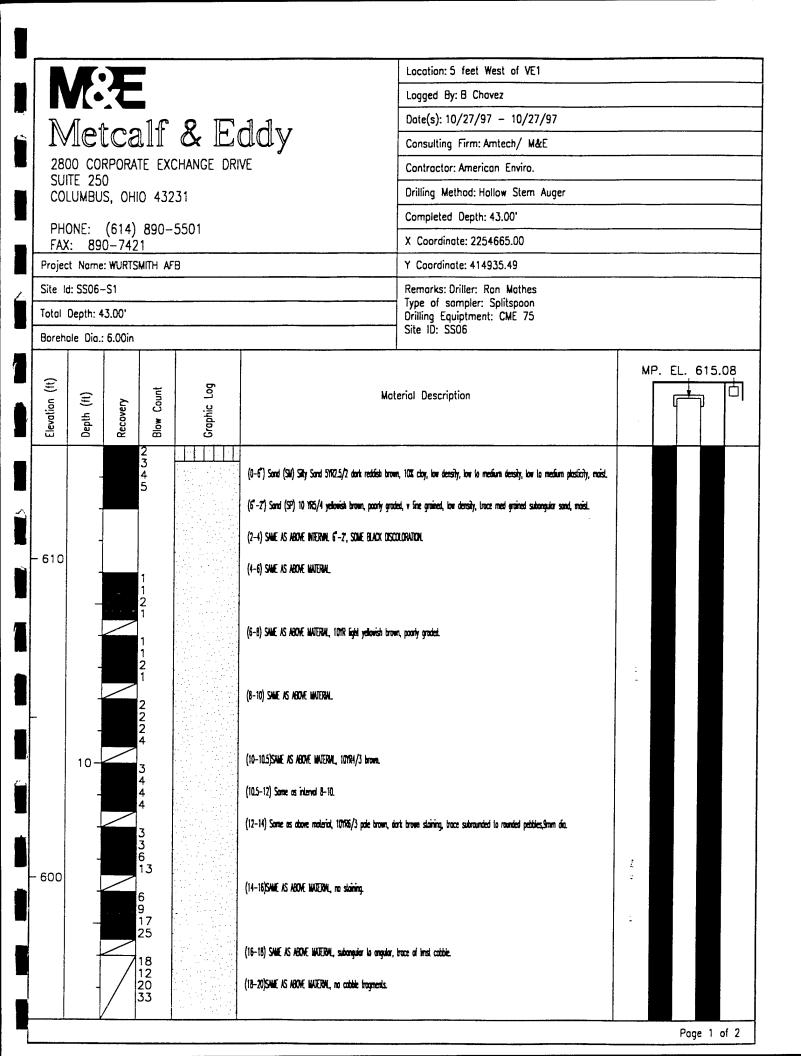
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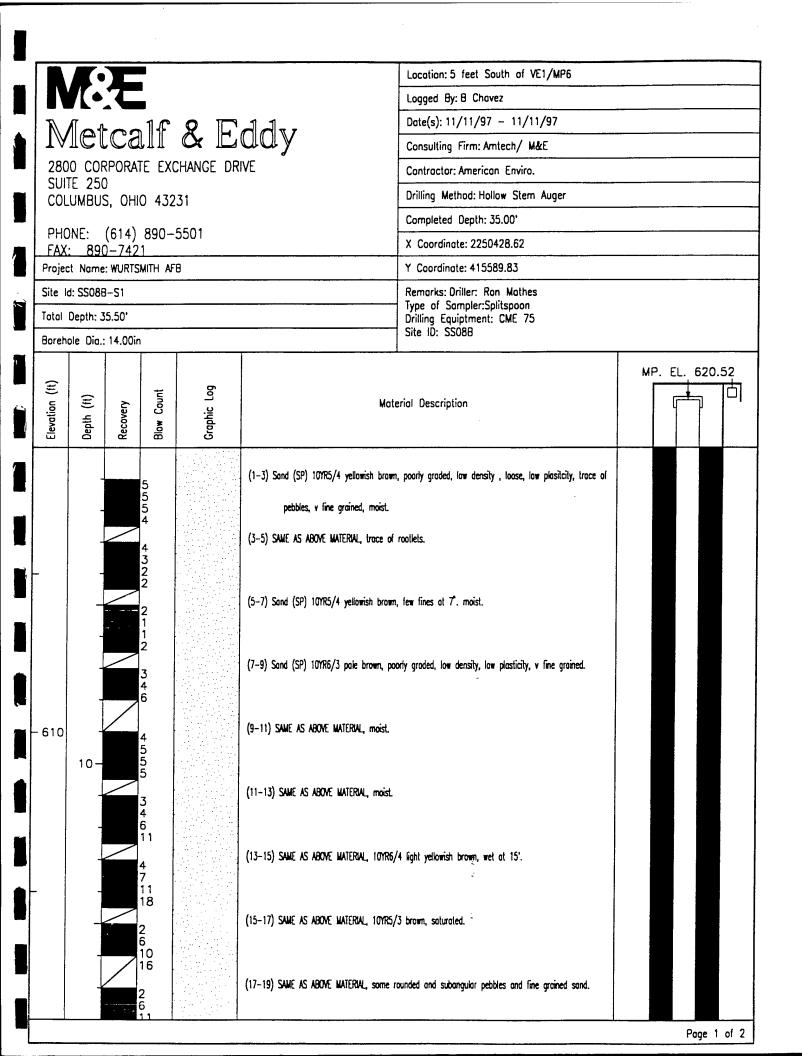
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APPENDIX A SOIL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS



Elevation (ft)	Depth (ft)	Recovery	Blow Count	Graphic Log	Material Description	Well Construction
-			5 8 16 20		(20-22)Sand (SP) 10995/3 pale brown, trace subrounded to rounded pebbles, 10mm dia, poorly graded, maist.	
- 590	-		6 8 12 20		(22-24) SAME AS ABONE MATERIAL, moist to wel. (24-26) SAME AS ABONE MATERIAL, don't brown discolaration of 24-25, soburated.	
	- 28-		6 6 11 21		(26-28)SAME AS ABONE MATERIAL, no discolaration, few rounded pebbles. (28-30)SAME AS ABONE MATERIAL, 1019S/2 groyish brown.	
	-		6 9 20 29 8 11 16 40		(30-37)SAME AS ABOVE MATERAL (32-34)SAME AS ABOVE MATERAL	
- 580	1		7 12 19 26 6 10 31		(34-36)SAME AS ABONE MATERAL. (36-38)SAME AS ABONE MATERAL.	
_	38~		צפ		(39-40)SAME AS ABONE MATERIAL. (40-42)SAME AS ABONE MATERIAL.	
- 570	_				ORILLED 1° TO TOTAL DEPTH OF 43 FEET. Screened internal 40.5-43"	
						Page 2 of 2



		<u> </u>			
Elevation (ft)	Depth (ft) Recovery	Blow Count	Graphic Log	Material Description	Well Construction
- 600 - 590		14 3588 25610 24711 23717 11612 14613 11612 13611		(19-20) SAME AS ABOVE MATERIAL. (20-21) Sand (SW) fine sond, loose with fine sonds, low to medium density, low plasticity, saturated. (21-23) Sand (SW) fine to medium sand, subrounded, loose, low plasticity, wet. (23-25) SAME AS ABOVE MATERIAL. (25-27) HEAVE IN SPOON. (27-29) SAME AS INTERVAL 21-23. (29-31) SAME AS ABOVE MATERIAL. (31-33) NO RECOVERY. (33-35) HEAVE IN SPOON.	
- 580 -	8-			SCREENED INTERVAL 32.5-35.0'	Page 2 of 2

												CADIOO		of SSOG-VE1
Project Name Project Number 021746				LTCCODE (IRPIMS)			 SX)6	LPRCODE (TRPIMS)					
Dni	ling (Совари	my	vironyng	ental	Driller Steve	<u></u>		Ground Elevation		Tot		lled Depub 40.5f4 .	_
Dril	ing E	quipe	ent	0.41	Drilling I		Borcho	e Diameter	Date/Time Drilling Started)			e Total Depth Re	1510
	<u> </u>	- `		evice					Water Level (bgs) First 22		Fir	nai		
		amme	Ŧ .		District	wa —	Drop		Hydrogeologist B.Chavez		Che	cked	by/Date	
Loca		Descr	iption	(include s	Driving ketch in fi	eld logbook)			10000		<u></u>			
Depth	Interval	Recovery	Blow Counts	., . (Include lit notation, r	hology, grai minerology,	n size, sor bedding, p	scription ting, angulari lasticity, den blicable)	ity, Munsell color name &	USCS Symbol	Lithology	Water Content	(Include all sam	Remarks ple types & depth, odor, or measurements, etc.)
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	- - - - -			(30-	35)	as c	ונסט	ب ۱۲	naturial.				>	2000
				(35	-40)	as a	ibor	l ln	iatival.		Į.		70	000
<u> </u>	- - -	=			U	dest	Porin	0 40.5			:			

FIELD REPRESENTATIVE: B. Chave 2	TYPE OF FILTER PACK: Global Silica Sand GRADIATION: 45
DRILLING CONTRACTOR: AMERICAN GOVERNMENTS	AMOUNT OF FILTER PACK USED: 22
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 91/4"10 HSA	TYPE OF BENTONITE: Pure Gold Chips. AMOUNT BENTONITE USED: 35
BOREHOLE IDENTIFICATION: SSOLO-MP1 BOREHOLE DIAMETER: 13" WELL IDENTIFICATION: SSOLO-MP1 A	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/6/197 WELL CONSTRUCTION COMPLETE DATE: 11/6/17	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 7-8	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schellul 40 CASING DIAMETER: 3/4"	COMMENTS:
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	GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT BENTONITE SEAL
	DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF FILTER PACK
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SAND CELLAR LENGTH	END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH 10.5'
INSTALLED BY: AMEYICAN CONVIVORMENTAL	not to scale LLATION OBSERVED BY: Metcalf ? Goly Inc. (B. Chave)
DISCREPANCIES:	· · · · · · · · · · · · · · · · · · ·

FIELD REPRESENTATIVE: B. Chave 2	TYPE OF FILTER PACK: Global Silica Sand GRADIATION: 45
DRILLING CONTRACTOR: AMERICAN CHVI	
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 91/4" ID HS/	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED: 35
BOREHOLE IDENTIFICATION: SSOLO-MP BOREHOLE DIAMETER: 13" WELL IDENTIFICATION: SSOL - MP13	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 116	97 DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 4 SCREEN DIAMETER: 314" STRATUM-SCREENED INTERVAL (FT): 13-14	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 4 CASING DIAMETER: 3/4"	COMMENTS:
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	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
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	GROUT
	BENTONITE SEAL
	FILTER PACK
E	DEPTH TO TOP OF BENTONITE SEAL 8.5
	DEPTH TO TOR OF FILTER BACK 12.5
:	DEPTH TO TOP OF FILTER PACK
	DEPTH TO TOP OF SCREEN 3
SCREEN LENGTH	
	
SAND CELLAR LENGTH	BOREHOLE DEPTH 40.5'
	- BOREHOLE DEI III
A • • • • •	NOT TO SCALE
INSTALLED BY: ATTERICAN CONTROPPED I	NSTALLATION OBSERVED BY: Mctcalfifoldy B. Chave
	· · · · · · · · · · · · · · · · · · ·
DISCREPANCIES:	

*** WELL CONSTRUCTION DETAI	LS AND ABANDONMENT FORM
FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: Global Silica Sand GRADIATION: 5
DRILLING CONTRACTOR: American Environ.	GRADIATION: 45 AMOUNT OF FILTER PACK USED: 22
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 91/4" ID HSA	TYPE OF BENTONITE: Purc Gold AMOUNT BENTONITE USED: 35
BOREHOLE IDENTIFICATION: SSO6-MP1 BOREHOLE DIAMETER: 13" WELL IDENTIFICATION: SSO6-MP1C	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11697 WELL CONSTRUCTION COMPLETE DATE: 11697	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Scheduk 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 19-20	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:
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CIAL CONDITIONS WELL CAP	SECURITY CASING
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	GROUND SURFACE (REFERENCE POINT)
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	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 4.5
	DEPTH TO TOP OF FILTER PACK
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
1/	END CAP
SAND CELLAR LENGTH	BOREHOLE DEPTH 40.5
NSTALLED BY: American Erwonnestal INSTALI	NOT TO SCALE ACTION OBSERVED BY: Metcalf; Eddy Inc. (B.
SCREPANCIES:	

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FIELD REPRESENTATIVE: 6. CHANCE	TYPE OF FILTER PACK: Global Silica Sand GRADIATION: #5
DRILLING CONTRACTOR: AMERICAN ENVIRONMENT	HAMOONI OF THE LEATHER COSES.
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 94" 10 HSA	TYPE OF BENTONITE: Purc Gold AMOUNT BENTONITE USED: 35
BOREHOLE IDENTIFICATION: SSO6-MP1 BOREHOLE DIAMETER: 13" WELL IDENTIFICATION: SSO6-MP1A	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 25-210	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:
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SPECIAL CONDITIONS WELL CAP (describe and draw)	SECURITY CASING CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
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	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 20.5
	DEPTH TO TOP OF FILTER PACK 24.5
	DEPTH TO TOP OF SCREEN 25'
SCREEN LENGTH	
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL 40.5'
INSTALLED BY: American Environments Insta	LLATION OBSERVED BY: Mcfulf = Eddy (B.Chavez)
DISCREPANCIES:	

WEŁL CON	STRUCTION DET	AILS AND ABANDONMENT FORM
	FOR: American Environm	TYPE OF FILTER PACK: Global Silica Sand GRADIATION: 45 AMOUNT OF FILTER PACK USED: 22
DRILLING TECHNIQUE AUGER SIZE AND TYPE	E: <u>CHE 75</u> PE: <u>94" ID HSA</u>	TYPE OF BENTONITE: Purc Gold AMOUNT BENTONITE USED: 35
BOREHOLE IDENTIFIC BOREHOLE DIAMETEI WELL IDENTIFICATIO	CATION: <u>SSO6-MP1</u> R: <u>13"</u> N: <u>SSO6-MP1</u> E	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION	N START DATE: \(\(\begin{align*} \(\left(\text{97} \) \\ \(\text{COMPLETE DATE:} \(\left(\text{0} \text{0} \) \\\ \(\text{COMPLETE DATE:} \(\text{0} \text{0} \text{0} \text{0} \)	97 DIMENSIONS OF SECURITY CASING:
SCREEN DIAMETER:	PVC Schedule 40 3/4" INTERVAL (FT): 32-33	TYPE OF WELL CAP: TYPE OF END CAP:
	PVC schedule 40	COMMENTS:
SPECIAL CONDITIONS (describe and draw)	WELL CAP	SECURITY CASING CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	7////	GROUND SURFACE (REFERENCE POINT)

LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF SCREEN SCREEN SAND CELLAR LENGTH

NOT TO SCALE DISCREPANCIES:

•			
FIELD REPRESENTA	ATTIVE: B.Chavez	TYPE OF FILTER PACK: Global Silica San GRADIATION: 5	d
DRILLING CONTRA	CTOR: American Environ.	AMOUNT OF FILTER PACK USED: 22	-
DRILLING TECHNIC	_	TYPE OF BENTONITE: Purc Gold AMOUNT BENTONITE USED:	-
BOREHOLE DIAMET	FICATION: <u>\$506-MP1</u> FER: 13" FION: <u>\$506-MP1F</u>	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:	- - -
WELL CONSTRUCTI	ON START DATE:ON COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:	_
SCREEN DIAMETER	: PVC Schedule 40 : 3/4" ED INTERVAL (FT): 39-40	TYPE OF WELL CAP: TYPE OF END CAP:	- -
CASING MATERIAL: CASING DIAMETER:	PVC schedule 40	COMMENTS:	
A CONTRACTOR SERVICE - CONTRACTOR	and the second state of the second state of the second second second second second second second second second	a digenti di karangan kanangan karangan kanangan kanangan kanangan kanangan kanangan kanangan kanangan kananga	ang Pagasan a
SPECIAL CONDITIONS (describe and draw)	WELL CAP	SECURITY CASING	
(describe and draw)		CASING LENGTH ABOVE GROUND SURFACE	
		DIMENTION OF CONCRETE PAD	
		GROUND SURFACE (REFERENCE POINT)	
garage of the state of the stat		LEGEND The control of the control o	
		GROUT	
		BENTONITE SEAL FILTER PACK	
		DEPTH TO TOP OF BENTONITE SEAL 33.1	5
		38.5	
	· ·	DEPTH TO TOP OF FILTER PACK	_
		DEPTH TO TOP OF SCREEN 39'	•
	SCREEN LENGTH	:	
	AND CELLAR ——		
3.	AND CELLAR LENGTH	BOREHOLE DEPTH 40.5'	
INSTALLED BY:	WIGH PAVIFORMADINSTAI	LATION OBSERVED BY: Melcalf-Edh Tag	0
DISCREPANCIES:		1	→ •

BORING LOG

										lo		NE of SSOB VEILIMPL	
		0 1 7	les	twe	1K	Project Nur	nber	LTCCODE (IRPIMS)		Sit	Ŝ	LPRCODE (TRPIMS)	
				MINO		Driller	Mathes	Ground Elevation		Tot	Total Drilled Depth 40.5		
Dri	Ling CN	Equip 1	Th	_	Drilling l	Method DHSA	Borehole Diamete	Date/Time Drilling Started				Total Depth Reached	
Type of Sampling Device Water Level (bgs)								Final					
Sam	•	Hamm	er .		Driving	Wı	Drop	Hydrogeologist B.Chave2		Cas	cked	by/Date	
		Desc	ription	(include s		eld logbook)	5.07			<u></u>			
								Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)					
			(0-10 1971 1810	ina il	UD(Sp) Stilder Ortain	larger	Tent interior DIOSTISTIZIO Operation Encire	-		Ŋ	<i>5</i>	
			A. 14	(10-2				ajsh blour		× .	Μ	>2000	
				20-3		inu 1	DO alto	Constella (4		/l:1- [V	72000	
				30.1	40) ∴	ni 120	codt K	THE LEASE THE STATE OF THE STAT	Ċ		V -	72000	
	-			loog	ed fi	rom (utting	5					

FIELD REPRESENTATIVE: B.Chaucz	TYPE OF FILTER PACK: Global Gund
DRILLING CONTRACTOR: American Environment	AMOUNT OF FILTER PACK USED:3
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 91/4 ID HSA	TYPE OF BENTONITE: Pue Gad Chips AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSO6-MP2- BOREHOLE DIAMETER: M° WELL IDENTIFICATION: SSO6-MP2A	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 116197 WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: DVC Schedule 40 SCREEN DIAMETER: 3/4"	TYPE OF WELL CAP:
CASING MATERIAL: PVC schedule 40 CASING DIAMETER: 9/4.	COMMENTS:
and the control of th	and a series and the series of the highest consequences for a will be found in a series of the series of the series of
SPECIAL CONDITIONS WELL CAP (describe and draw)	SECURITY CASING
describe and devi	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
aaliyaan _{ii t} aray oo ahaa ahaa ahaa ahaa ahaa ahaa ahaa	
	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL
.	DEPTH TO TOP OF FILTER PACK
SCREEN SCREEN	DEPTH TO TOP OF SCREEN
LENGTH	END CAP Q
SAND CELLAR LENGTH	BOREHOLE DEPTH
INSTALLED BY: ANWICAN (NVIVONIMA) INSTA	NOT TO SCALE LLATION OBSERVED BY: Metcalf; Edge Tox (B. Chaire Z
DISCREPANCIES:	. 0

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: Colobal Sand
DRILLING CONTRACTOR: AMERICA ENVIRONMENT	AMOUNT OF FILTER PACK USED: 5
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 974 10 HSA	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSO6- MP2 BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSO6- MP2B	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: WC School 40 SCREEN DIAMETER: 514" STRATUM-SCREENED INTERVAL (FT): 13-14	TYPE OF WELL CAP:
CASING MATERIAL: VC Schedule 40 CASING DIAMETER: 44"	COMMENTS:
	alle dal dal dal segon del dal del mente del segon del como esta del segon del segon del segon del segon del s
SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
onth	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
To the modern complete a first of legal constitution of the exchange of the ex	LEGEND
	GROUT
	BENTONITE SEAL FILTER PACK
	esta de medica estado a ser en el fina de medica de la fina de la composición del composición de la composición del composición de la composición del composición de la composición del composición de la composic
	DEPTH TO TOP OF BENTONITE SEAL 8/2
	DEPTH TO TOP OF FILTER PACK 12/2
SCREEN	DEPTH TO TOP OF SCREEN13'
LENGTH	END CAP
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL BODEWOLE DEPTH 26.5'
	BOREHOLE DEPTH
INSTALLED BY: AMUNICAN ENVIRON MATERIAL	LATION OBSERVED BY: Mchaff: Edy (B. Chanez)
DISCREPANCIES:	
, page 1	ODM WALL

MP2C

Ω (1	$C11 \cdot C1$
FIELD REPRESENTATIVE: D. Wave?	GRADIATION: 45
DRILLING CONTRACTOR: AMERICAN ENVIRONMENT	MOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CHE 75 AUGER SIZE AND TYPE: 94" 10 HSP	TYPE OF BENTONITE: Pure Gold Clips AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SO6-MPZ BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: 5506-MP2C	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE:WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40	TYPE OF WELL CAP:
SCREEN DIAMETER: 311" STRATUM-SCREENED INTERVAL (FT): 19-20 CASING MATERIAL: WC School 40	COMMENTS:
CASING DIAMETER: 5/4 "	
T	rander en
SPECIAL CONDITIONS describe and draw) well cap	SECURITY CASING CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
and the control of th	Between some fit from a compact of the first problem of the problem of the fit of the fit of the section
	GROUT CONTRACTOR OF THE STATE O
	BENTONITE SEAL
	FILTER PACK
	14/2
	DEPTH TO TOP OF BENTONITE SEAL 472
	DEPTH TO TOP OF FILTER PACK 1812
	DEPTH TO TOP OF PILLER PACK
SCREEN	DEPTH TO TOP OF SCREEN
LENGTH	
	END CAP
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL BOREHOLE DEPTH BOREHOLE DEPTH
	BUKENULE DEPIN
1	NOT TO SCALE NOT TO SCALE NOT TO SCALE RELLED TO SCALE NOT TO SCALE
INSTALLED BY: Awrican two ron meda INSTAL	LATION OBSERVED BY: 1 TO CALL TOOK ONLY DISCUSSION OF THE DESCRIPTION OF THE PROPERTY OF THE P
DISCREPANCIES:	··

FIELD REPRESENTATIVE: B. Chauez	TYPE OF FILTER PACK: Global Sand
DRILLING CONTRACTOR AMERICAN ENVIRONMENT	GRADIATION:
DRILLING TECHNIQUE: CMF 75 AUGER SIZE AND TYPE: 91/4111 ID 14/4	TYPE OF BENTONITE: Pura Gold AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: 5506- MP2 BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: 5506- MP2D	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: WC Scholul 40 SCREEN DIAMETER: #1 914 1 25 - 210	TYPE OF WELL CAP:
CASING MATERIAL: WC Schedule 40 CASING DIAMETER: 3/4.	COMMENTS:
	e. De la companya de la
SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 201/2
	DEPTH TO TOP OF FILTER PACK 291/2
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
SAND CELLAR LENGTH	END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH BOREHOLE DEPTH
INSTALLED BY: Anurican Environmental Enstal	NOT TO SOME
DISCREPANCIES:	

FIELD REPRESENTATIVE: B. Chaver	TYPE OF FILTER PACK: Global Sand GRADIATION:
DRILLING CONTRACTOR: Amuican Environ	AMOUNT OF FILTER PACK USED: 3
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 914" (DHSM	TYPE OF BENTONITE: Pure Gold. AMOUNT BENTONITE USED: 56 bags
BOREHOLE IDENTIFICATION: SSOL - MP2 BOREHOLE DIAMETER: 17" WELL IDENTIFICATION: 5506 - MP2 E	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE:WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: DVC Schedule 40 SCREEN DIAMETER: 14"	TYPE OF WELL CAP: TYPE OF END CAP:
STRATUM-SCREENED INTERVAL (FT): 32-33 CASING MATERIAL: PVC Schedole 40	COMMENTS:
CASING DIAMETER: 3/4"	
	SECURITY CASING
SPECIAL CONDITIONS WELL CAP (describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
a particular of the forest energy explored to the first	LEGEND
	GROUT BENTONITE SEAL FILTER PACK
	- C
	DEPTH TO TOP OF BENTONITE SEAL
	DEPTH TO TOP OF FILTER PACK 31.5
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
	END CAP 33'
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL BOREHOLE DEPTH 40.5'
INSTALLED BY: Anuion Environ muto INS	STALLATION OBSERVED BY: Mtcalf; toly (B Chaur)
DISCREPANCIES:	Y Y

5506-MP2F

	WELL CONSTRUCTION DETA	ILS AND ABANDONMENT FORM
	FIELD REPRESENTATIVE: B Chauz	TYPE OF FILTER PACK: Alebal Sand
	DRILLING CONTRACTOR: American Caveronnet	AMOUNT OF FILTER PACK USED:
	DRILLING TECHNIQUE: CME 15 AUGER SIZE AND TYPE: 91/4" 10 HSA	TYPE OF BENTONITE: Pue Gold AMOUNT BENTONITE USED: 6 1005
	BOREHOLE IDENTIFICATION: SSOG - MPZ BOREHOLE DIAMETER: 14"	TYPE OF CEMENT:AMOUNT CEMENT USED:
	WELL IDENTIFICATION: SSOG - MP2F WELL CONSTRUCTION START DATE: WELL CONSTRUCTION COMPLETE DATE:	GROUT MATERIALS USED:
	SCREEN MATERIAL: PVC Schidale 40 SCREEN DIAMETER: 3/4 °	TYPE OF WELL CAP: TYPE OF END CAP:
	STRATUM-SCREENED INTERVAL (FT): 31-40 CASING MATERIAL: PVC Schedule 40	COMMENTS:
	CASING DIAMETER: 3/4"	
SPE	CIAL CONDITIONS WELL CAP-	SECURITY CASING
(desc	cribe and draw)	CASING LENGTH ABOVE GROUND SURFACE
		DIMENTION OF CONCRETE PAD
		GROUND SURFACE (REFERENCE POINT)
en e		LEGEND
San		GROUT
:		BENTONITE SEAL FILTER PACK
<u>.</u> • ·		
		DEPTH TO TOP OF BENTONITE SEAL
		DEPTH TO TOP OF FILTER PACK 36.4
	SCREEN LENGTH	DEPTH TO TOP OF SCREEN 39'
		END CAP
	SAND CELLAR LENGTH	BOREHOLE DEPTH 40.5'
_	A - 1	NOT TO SCALE
	,	LATION OBSERVED BY: Mutcalt, Colin (B. Churez
D	DISCREPANCIES:	· · · · · · · · · · · · · · · · · · ·

BORING LOG

									In Id	cution	NW of SSOG VEL		
Proje	ot 1	iec	f We	IK	Project Nu	1746	LTCCODE (IRPIMS)		Sit	εD	D(
	ng Com		Envir		Driller	n Mathes	Ground Elevation		To	tal Dri	illed Depth 33.5		
Drillin	g Equip			Drilling 1		Borehole Diamete	Date/Time Drilling Started				e Total Depth Reached 33.5		
Туре	of Sam	oling I	Device			•	Water Level (bgs) First 22		Final				
1	e Hame	oer .		Driving	11/2	Drop	B. Chavez		Ca.	ecked	by/Date		
Locati	on Des	riptio	n (include s		eld logbook)								
Depth	Recovery	Blow Counts	and and	(Include lit notation, n	hology, grain ninerology, i	Description size, sorting, angul bedding, plasticity, d applicable)	arity, Munsell color name & ensity, consistency, etc., as	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)		
			10.0	にてと	VII	e concellan	wellowish del, lowdensity, pappers	ξį		М	Ø		
		~~	(10-20	5 an	1001E	6/4 light of our	tiellowish.	Sp.		8			
20			20-3	60 S	anu	as atr	ne irial	SP		~~	72000		
			30-3	3.5 Sur		as alm Line		()		W-	72000		
					চা	UD OFBOI	4NG 33.5'						

FIELD REPRESENTATIVE: B. Chave?	TYPE OF FILTER PACK: Global Sond GRADIATION:
DRILLING CONTRACTOR: AWAYICAN GAVIYOHANA	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 94.10 H5A	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED: 12
BOREHOLE IDENTIFICATION: \$506 MP3 BOREHOLE DIAMETER: [4" WELL IDENTIFICATION: \$500- MP3 A	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: DVC Schedule 40 SCREEN DIAMETER: 14" STRATUM-SCREENED INTERVAL (FT): 7-8"	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 34"	COMMENTS:
SPECIAL CONDITIONS (describe and draw) WELL CAP	SECURITY CASING
	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
and the second of the second o	AND THE RESERVE AND
	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL
	DEPTH TO TOP OF FILTER PACK 6.5
SCREEN	DEPTH TO TOP OF SCREEN
LENGTH	END CAP Q ,
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL BOREHOLE DEPTH 33.5
hames to	NOT TO SCALE
INSTALLED BY: Anurican Environmenta Install	LATION OBSERVED BY: Moket Today D. Chavez
DISCREPANCIES:	

FIELD REPRESENTATIVE: B.Chave2	TYPE OF FILTER PACK: global Sond
DRILLING CONTRACTOR: Awerican Paviroamital	GRADIATION: 45 AMOUNT OF FILTER PACK USED: 3
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 44 ID HSA	TYPE OF BENTONITE: Purgold AMOUNT BENTONITE USED: 4
BOREHOLE IDENTIFICATION: SSOG-MP3 BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: 5506 MP3B	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: WBI97 WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: WC Scholle 40 SCREEN DIAMETER: Sta " STRATUM-SCREENED INTERVAL (FT): 13'-14'	TYPE OF WELL CAP: TYPE OF END CAP: COMMENTS:
CASING MATERIAL: PC Schedule 40 CASING DIAMETER: 3/4 4	
SPECIAL CONDITIONS (describe and draw)	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
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e gratici e di la diserbita di Alba La La Catta	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 8.5
·: ·	DEPTH TO TOP OF FILTER PACK
SCREEN	DEPTH TO TOP OF SCREEN
LENGTH	END CAP
SAND CELLAR LENGTH	BOREHOLE DEPTH 33.5
INSTALLED BY: AMERICAN ENTERN MENTAL INSTAL	LATION OBSERVED BY: Mokal : Edy Inc. (B.Chaver)
DISCREPANCIES:	V

	the first of the first particular to the property of the second of the s
FIELD REPRESENTATIVE: B. Chave	TYPE OF FILTER PACK: Globel Sand
DRILLING CONTRACTOR AWAY CAN TENVION MAKE	AMOUNT OF FILTER PACK USED: Z
DRILLING TECHNIQUE: CHETS AUGER SIZE AND TYPE: 940 HSA	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED: 8
BOREHOLE IDENTIFICATION: SSOC-MP3 BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOC MP3C	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: N 897 WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 19-20	TYPE OF WELL CAP:
CASING MATERIAL: PVC School 40 CASING DIAMETER: 3/4"	COMMENTS:
PECIAL CONDITIONS describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT)
	DEPTH TO TOP OF BENTONITE SEAL 18,5' 19'
SCREEN LENGTH SAND CELLAR LENGTH	END CAP DEPTH TO BASE OF WELL 70'
INSTALLED BY: Anuican Environmental INSTAL	NOT TO SCALE LATION OBSERVED BY: Melcel Flower)
DISCREPANCIES:	*

DUCKIN DUCC

FIELD REPRESENTATIVE: B.Chwer	TYPE OF FILTER PACK: Global Sand
DRILLING CONTRACTOR: AMUNICAN ENVIRON	NT OF FILTER PACK USED: 3
DRILLING TECHNIQUE: CME 15 AUGER SIZE AND TYPE: 91/4" 17 H5A	TYPE OF BENTONITE: Rure Gold Chips AMOUNT BENTONITE USED: 4
BOREHOLE IDENTIFICATION: SSOL-MP3 BOREHOLE DIAMETER: 4" WELL IDENTIFICATION: SSOL-MP3	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 10191 WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: NC Schedule 40 SCREEN DIAMETER: 110.	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: PC Schedule 40 CASING DIAMETER: 34"	COMMENTS:
	· ·
SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	1 FCD PD
	LEGEND
a gradica da a cara guida da esta a desperante de esta	GROUT
	BENTONITE SEAL
	FILTER PACK
	n 1
	DEPTH TO TOP OF BENTONITE SEAL
	04 F/
F	DEPTH TO TOP OF FILTER PACK
<u>ئے انا ہے</u>	DEPTH TO TOP OF SCREEN 5'
SCREEN LENGTH	DEFINITION OF SCREEN
SAND CELLAR	END CAP DEPTH TO BASE OF WELL
LENGTH	BOREHOLE DEPTH 33.5
INSTALLED BY: AMERICAN ENVIRONMENT INSTALL	LATION OBSERVED BY: Netes Fitcher The (BCharez)
DISCREPANCIES:	• • • • • • • • • • • • • • • • • • • •

DONA MIDE

FIELD REPRESENTATIVE: BChave 2	TYPE OF FILTER PACK: Global Sand GRADIATION: 45
DRILLING CONTRACTOR: ATTENTION IN INVINIONIS	SAMOUNT OF FILTER PACK USED: 3
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 94" 10 HSA	TYPE OF BENTONITE: Pure Gold Chips amount BENTONITE USED: 12
BOREHOLE IDENTIFICATION: SSO6-MP3 BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: 5506-MP3E	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 118197 WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PC Schdul 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 32-33	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4 °	COMMENTS:
SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
A Company of the Comp	GROUT GROUT
	BENTONITE SEAL
	FILTER PACK
), <u></u>
	DEPTH TO TOP OF BENTONITE SEAL $A\varphi_i$
	DEPTH TO TOP OF FILTER PACK 31.5
3 8	DEPTH TO TOP OF FILTER PACK
SCREEN	DEPTH TO TOP OF SCREEN 32
LENGTH -	
	END CAP
SAND CELLAR LENGTH	
Annual Address and the Control of th	BOREHOLE DEPTH
1 . 1	NOT TO SCALE
INSTALLED BY: American Environmental	LLATION OBSERVED BY: Metca for Lody Inc. (B. Chawcz
DISCREPANCIES:	· J ·
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			:					,		Lo	cation					
Pro	ject l	Name H-T	حدا	- Wel	 .ls	Project Num		LTCCODE (IRPIMS)	-		ъ 55(J.	1	LPRCODE (IRPIN	AS)	
Pilot Test Wells 021746 Drilling Company Drillier American Frystonmental Ron Hathes			Ground Elevation		Tot	al Dri	lied Depti	33	.5′							
Dri	ling !	Equip 15	ncent		Drilling		Borehole Diameter	Date/Time Drilling Started			Date/Time Total Depth Reached					
Type of Sampling Device					Water Level (bgs) First		Final									
San Typ	•	lamm	er	-	Driving	wt. —	Drop	Hydrogeologist		(a.	ecked	by/Date		-		
		Desc	iption	(include	sketch in fi	eld logbook)										
Description Total Total						ensity, consistency, etc., as	USC\$ Symbol	Lithology	Water Content		e all samp	emarks le types & depth, c measurements, etc				
				に (C 以上)	More. More		for som	Actionich Padalian Postaria	50		14					
					> 100	11000	1617-151	Mistrian V	100	1		tinai ingk	26	e site anno e a	e, e s.c.	
		(111111111	(20-3			al all	, al			∆ -	- 11	77			
				(30-	33.5	D Sunu ! ()	cacial	LENC ODOR			23	12	205			

FIELD REPRESENTATIVE: BCHAVEZ	TYPE OF FILTER PACK: Alone Sand
DRILLING CONTRACTOR: AMONGON FINNION MENTS	GRADIATION: 400
DRILLING TECHNIQUE: CME 15 AUGER SIZE AND TYPE: QUARTER 15	TYPE OF BENTONITE: NWW gold AMOUNT BENTONITE USED: D
BOREHOLE IDENTIFICATION: SSOL-MP4 WELL IDENTIFICATION: SSOL-MP4A	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 1/10/97 WELL CONSTRUCTION COMPLETE DATE: 1/10/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: YVC Schedule 45 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 7'-8'	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: NC Scholl 10 CASING DIAMETER: 34°	COMMENTS:
SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
	GROUT
	BENTONITE SEAL
	FILTER PACK
	- 11
	DEPTH TO TOP OF BENTONTIE SEAL
	DEPTH TO TOP OF FILTER PACK
SCREEN	DEPTH TO TOP OF SCREEN 7
1ENGTH	
	END CAP 01
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL
	BOREHOLE DEPTH 33.5
	NOT TO SCALE/
INSTALLED BY: Anuncan Environment Install	ATION OBSERVED BY: Melast Edy The B Chivez
DISCREPANCIES:	

FIELD REPRESENTATIVE: B. Chave 2	TYPE OF FILTER PACK: Along Sand
DRILLING CONTRACTOR: AMONICAN ENVIORM	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 974 10 468	TYPE OF BENTONITE: DWL Gold AMOUNT BENTONITE USED: 10
BOREHOLE IDENTIFICATION: SSOL MP4 BOREHOLE DIAMETER: 14 WELL IDENTIFICATION: 5506 MP48	TYPE OF CEMENT:
WELL CONSTRUCTION START DATE: 11 [10]97 WELL CONSTRUCTION COMPLETE DATE: 11 [10]	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC School 40 SCREEN DIAMETER: 319	TYPE OF WELL CAP:
CASING MATERIAL: NCSCHALL 40 CASING DIAMETER: 314"	COMMENTS:
	<u>andre en la large de la proposition de</u> La compansión
SPECIAL CONDITIONS (describe and draw)	SECURITY CASING
(0000000 200 200)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 81/2
	DEPTH TO TOP OF FILTER PACK 12'
	DEPTH TO TOP OF SCREEN 13'
SCREEN LENGTH	
	END CAP DEPTH TO BASE OF WELL
SAND CELLAR LENGTH	BOREHOLE DEPTH 33.5'
INSTALLED BY: Anuican Environmental INS	TALLATION OBSERVED BY MICH FORT TO SCALE
DISCREPANCIES:	•

FIELD REPRESENTATIVE: B.Chanes	TYPE OF FILTER PACK: Alobal Sand
DRILLING CONTRACTOR: MILICON ENVIRONMENT	GRADIATION: 45 DAMOUNT OF FILTER PACK USED: 2
DRILLING TECHNIQUE: CME 15 AUGER SIZE AND TYPE: 914* 10 KK	TYPE OF BENTONITE: DWLOOD AMOUNT BENTONITE USED: 7
BOREHOLE IDENTIFICATION: SSOC MP4 BOREHOLE DIAMETER: 14° WELL IDENTIFICATION: SSOC MP4C	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/10/97 WELL CONSTRUCTION COMPLETE DATE: 11/10/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: NC SCHAULE NO SCREEN DIAMETER: 144 STRATUM-SCREENED INTERVAL (FT): 19-10	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 10 CASING DIAMETER: 340	COMMENTS:
SPECIAL CONDITIONS	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT)
	LEGEND
	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 14/2
	DEPTH TO TOP OF FILTER PACK 1812
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
SAND CELLAR LENGTH	end cap depth to base of well 20'
	BOREHOLE DEPTH 33.5
•	ATION OBSERVED BY: Metal Fild Inc (B Chavez)
DISCREPANCIES:	

FIELD REPRESENTATIVE: B. Chaver	TYPE OF FILTER PACK: Alobal Sand
DRILLING CONTRACTOR: AMINICAN CONTROL.	GRADIATION: =5
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 94" 10 HSA	TYPE OF BENTONITE:OWC GOLD
BOREHOLE IDENTIFICATION: SSOL-MP4 BOREHOLE DIAMETER: 14* WELL IDENTIFICATION: SSOL-MP4D	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11097 WELL CONSTRUCTION COMPLETE DATE: 11097	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC SCHAUL 40 SCREEN DIAMETER: 314 STRATUM-SCREENED INTERVAL (FT): 25-74	TYPE OF WELL CAP: TYPE OF END CAP: COMMENTS:
CASING MATERIAL: NC Schedule 40 CASING DIAMETER: 34"	COMMENTS:
SPECIAL CONDITIONS (describe and draw) WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT) LEGEND
	GROUT BENTONITE SEAL FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 2012
	DEPTH TO TOP OF FILTER PACK 24/2
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL 33.5'
INSTALLED BY: American Environmental Instal	LATION OBSERVED BY: Metral F. Eddy Inc. B. Chavez
DISCREPANCIES:	

FIELD REPRESENTATIVE: B.Chauz	TYPE OF FILTER PACK: Global Sand
DRILLING CONTRACTOR: Anuica Environnat	GRADIATION: 5 AMOUNT OF FILTER PACK USED: 4
DRILLING TECHNIQUE: CME 15 AUGER SIZE AND TYPE: 94"10 HSA	TYPE OF BENTONITE: Purgok AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOG-MP4 BOREHOLE DIAMETER: 4" WELL IDENTIFICATION: SSOG-MP4E	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/10/97 WELL CONSTRUCTION COMPLETE DATE: 11/10/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: DC Schidule 4D SCREEN DIAMETER: 34" STRATUM-SCREENED INTERVAL (FT): 32-33	TYPE OF WELL CAP:
CASING MATERIAL: DVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:
SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT)
	LEGEND
	BENTONITE SEAL FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 24.5
	DEPTH TO TOP OF FILTER PACK 31.5
SCREEN LENGTH	DEPTH TO TOP OF SCREEN 32
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL 33 ' BOREHOLE DEPTH 33.5'
INSTALLED BY: Anenic an Environmental Install	NOT TO SCALE ACTION OBSERVED BY: Metcalf Foder Tine B. Chivez
DISCREPANCIES:	- Distriction of the provider

FIELD REPRESENTATIVE: D. WYLZ	TYPE OF FILTER PACK: ON DEL SUND
DRILLING CONTRACTOR: ANUICON TRAINING	
DRILLING TECHNIQUE: CWT 75 AUGER SIZE AND TYPE: 94" 10 HSB	TYPE OF BENTONITE: Rue Hold Clip -AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOID-MP5 BOREHOLE DIAMETER: 4"	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL IDENTIFICATION: SSOL - MP5 P WELL CONSTRUCTION START DATE: 110157 WELL CONSTRUCTION COMPLETE DATE: 111015	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: TO SUNDALE TO SCREEN DIAMETER:	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: WC Schall 40 CASING DIAMETER: 214"	COMMENTS: .
CASING DIAMETER. 3	
SPECIAL CONDITIONS (describe and draw)	SECURITY CASING CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT BENTONITE SEAL
	FILTER PACK ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
SAND CELLAR LENGTH	22 6
22.70	BOREHOLE DEPTH
	NOT, TO SCALE_

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM FIELD REPRESENTATIVE TYPE OF FILTER PACK: DRADIATION: 45 DRILLING CONTRACTOR: MUNICAN MOUNT OF FILTER PACK USED: DRILLING TECHNIQUE: CME TYPE OF BENTONITE: AUGER SIZE AND TYPE: QVA AMOUNT BENTONITE USED: ID HSA BOREHOLE IDENTIFICATION: SOLO-TYPE OF CEMENT: BOREHOLE DIAMETER: 14" AMOUNT CEMENT USED: WELL IDENTIFICATION: SSOL. MP5 B GROUT MATERIALS USED: WELL CONSTRUCTION START DATE: Wol97 WELL CONSTRUCTION COMPLETE DATE: DIMENSIONS OF SECURITY CASING: _ SCREEN MATERIAL: TYPE OF WELL CAP: SCREEN DIAMETER: TYPE OF END CAP: STRATUM-SCREENED IN COMMENTS: CASING MATERIAL: CASING DIAMETER: SPECIAL CONDITIONS SECURITY CASING WELL CAP (describe and draw) CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT) LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF SCREEN SCREEN LENGTH SAND CELLAR DEPTH TO BASE OF WELL LENGTH BOREHOLE DEPTH

INSTALLED BY: ANWIGH ENVIONMENT INSTALLATION OBSERVED BY: ME (B. Chauez)
DISCREPANCIES:

FIELD REPRESENTATIVE: B. CHANCE	TYPE OF FILTER PACK: global sund
DRILLING CONTRACTOR: AMUNICAN ENVIRONMENT	GRADIATION: AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CWE 15 AUGER SIZE AND TYPE: CY 10 HSB	TYPE OF BENTONITE:
BOREHOLE IDENTIFICATION: \$506 MP56. BOREHOLE DIAMETER: 44 WELL IDENTIFICATION: 5506 - MP56.	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 1110197 WELL CONSTRUCTION COMPLETE DATE: 1110197	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: NC CCHANGE TO SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 19-20	TYPE OF WELL CAP:
CASING MATERIAL: PC Schedul 40 CASING DIAMETER: 3/4"	COMMENTS: .
SPECIAL CONDITIONS WELL CAP describe and draw)	SECURITY CASING
describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT)
	And the state of t
	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 18/2'
	DEPTH TO TOP OF SCREEN 18/2
SCREEN LENGTH	END CAP
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL
INSTALLED BY ANUICON INSTA	LLATION OBSERVED BY: ME B Chaugy
DISCREPANCIES:	

FIELD REPRESENTATIVE: B. Chur	TYPE OF FILTER PACK: Abbal Sand GRADIATION: 45
DRILLING CONTRACTOR: AMUNICAN ENVIRONMENT	AMOUNT OF FILTER PACK USED: 2
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 94" 10454	TYPE OF BENTONITE: bentoute prue god amount BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOL - MP5 D WELL IDENTIFICATION: SSOL - MP5 D	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 1110197 WELL CONSTRUCTION COMPLETE DATE: 1110197	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: WC Schidule 40 SCREEN DIAMETER: 3/4 STRATUM-SCREENED INTERVAL (FT): 25-24	TYPE OF WELL CAP:
CASING MATERIAL: NC Scholule 40' CASING DIAMETER: 3/4"	COMMENTS:
	and the second of the second o
SPECIAL CONDITIONS (describe and draw) WELL CAP	security casing
	CASING LENGTH ABOVE GROUND SURFACE
	GROUND SURFACE (REFERENCE POINT)
	The Mark the Secretary and the Secretary of the LEGEND second of the Company of t
	GROUT
	BENTONITE SEAL FILTER PACK
	FELEXIACK
	DEPTH TO TOP OF BENTONITE SEAL 20.5
er er	DEPTH TO TOP OF FILTER PACK 24'2'
	DEPTH TO TOP OF SCREEN
SCREEN LENGTH	
	END CAP .
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL 33.5'
	
INSTALLED BY: ATMICEN ENVIRONMENT INSTALL	ATION OBSERVED BY: MF (B. Church)
DISCREPANCIES:	

5506-MP5E

DRILLING CONTRACTOR: ANUMER TONOR.	TYPE OF FILTER PACK: Global Sand GRADIATION: #5 AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 94" 10 HSP	TYPE OF BENTONITE: Pure April . AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SOG-MP5 BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOG-MP5E	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: WIO 197 WELL CONSTRUCTION COMPLETE DATE: 1/10/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PU Schedule 40 SCREEN DIAMETER: 94° STRATUM-SCREENED INTERVAL (FT): 32-33 CASING MATERIAL: PUC Schedule 40 CASING DIAMETER: 9/4"	TYPE OF WELL CAP: TYPE OF END CAP: COMMENTS:
SPECIAL CONDITIONS (describe and draw) SCREEN LENGTH SAND CELLAR LENGTH	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT) LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN SOLUTION BENTONITE SEAL FILTER PACK DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN SOLUTION BENTONITE SEAL FILTER PACK DEPTH TO TOP OF SCREEN SOLUTION BENTONITE SEAL THE STATE OF SCREEN BOREHOLE DEPTH BOREHOLE DEPTH SOLUTION BENTONITE SEAL THE STATE OF SCREEN SOLUTION BENTONITE SEAL THE STATE OF SCREEN BOREHOLE DEPTH SOLUTION BENTONITE SEAL THE STATE OF SCREEN SOLUTION BENTONITE SEAL THE STATE OF SCREEN BOREHOLE DEPTH SOLUTION BOREHOLE DEPTH SOLUTION BENTONITE SEAL SOLUTION BENT
INSTALLED BY: Anuncan Environment I INSTAL	LATION OBSERVED BY: MFT Beck Chavez
DISCREPANCIES:	· · · · · · · · · · · · · · · · · · ·

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	_	Comp (Q)		nvironment	al Steve	Sikora	Ground Elevation		To	al Dr	23' (b95)
		Equip			ng Method +SP(914)	Borehole Diameter	Date/Time Drilling Started		Ι.		ne Total Depth Reached
H			75 15		13/1/14	1 10	10129197 / 0845		110	129	197 0921 23'
, ,	pe or	Samp	ling D	- -			Water Level (bgs) First 23'		Fi	nal	22'
San	•	lamm	a 	Driv	ing Wt.	- Drop - ·	Hydrogeologist B.Chavez		Ca	ecked	by/Date
Loc	ation	Desc	ription	(include sketch i	n field logbook)				1	مل	epth.
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£	-	È	Sens			Description		18	ŝ	Content	Remarks
Depth	Interval	Recovery	Blow Counts				ity, Munsell color name & sity, consistency, etc., as	USCS Symbol	Lithology	Water C	(Include all sample types & depth, odor, organic vapor measurements, etc.)
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FIELD REPRESENTATIVE: B.Chave2	TYPE OF FILTER PACK: Global Silica Sand GRADIATION: # 5.0
DRILLING CONTRACTOR: Emerican Environments	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 414" ID HSA	TYPE OF BENTONITE: <u>Barold 3/8" Chips</u> AMOUNT BENTONITE USED: 7
BOREHOLE IDENTIFICATION: SSO -VE1 BOREHOLE DIAMETER: 13" WELL IDENTIFICATION: SSO 6-VE1	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE:WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PNC Schedule 80 SCREEN DIAMETER: 4" ? 1" STRATUM-SCREENED INTERVAL (FT): 8'-23'	TYPE OF WELL CAP: J. Plus TYPE OF END CAP: PVC COMMENTS:
CASING MATERIAL: PVC CASING DIAMETER: 4" 3 1"	
SPECIAL CONDITIONS (describe and draw)	SECURITY CASING CASING LENGTH ABOVE GROUND SURFACE 2.0
	DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT BENTONITE SEAL
	FILTER PACK Chips
	DEPTH TO TOP OF BENTONITE SEAL OO
F2 :	DEPTH TO TOP OF FILTER PACK 7.5
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL 23.0
LEAUIA	BOREHOLE DEPTH & O.U
	NOT TO SCALE
INSTALLED BY: American Environmental Instal	LATION OBSERVED BY: B. Chairz (Metcaifz Eddy)
DISCREPANCIES:	<u> </u>

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Ртој	ect)	ame				Project Nur	nber		LTCCODE (IRPIMS)		Si	ie ID	···	LPRCODE (IRPIMS)				
Drill	ing (Comp	20 y			Driller			Ground Elevation		То	Total Drilled Depth						
Drill	ing E	quip	ncet		Drilling 1	Method	Borehole D	iameter	Date/Time Drilling Started		Da	Date/Time Total Depth Reached						
Турс	of S	iempl	ing D	Pevice					Water Level (bgs) First			nal						
Samp	de H	2mm	=						Hydrogeologist		_		by/Date					
Туре					Driving	Wt.	Drop	•			L							
Loca	tion :	Descr	iptiot	include s	ketch in fi	eld logbook)												
ĵĥ	val	very	ounts				Descrip			ymbol	083	Content		Remarks				
Depth	Inter	Recovery	Blow Counts		include lit notation, r	hology, grain ninerology, b	size, sorting, edding, plasti applica	city, den	ty, Munsell color name & sity, consistency, etc., as	USCS Symbol	Lithology	Water C	(Include all san	ple types & depth, odor, or measurements, etc.)				
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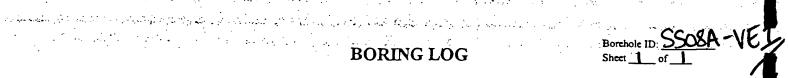
FIELD REPRESENTATIVE: B.C. Chavez	TYPE OF FILTER PACK: Global Silica Sand
DRILLING CONTRACTOR: AMERICAN GOVERNMENTED	GRADIATION: 450 AMOUNT OF FILTER PACK USED: 3.5
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: HV4*10 HSA	TYPE OF BENTONITE: Barold 3/8" Chips AMOUNT BENTONITE USED: 4 20
BOREHOLE IDENTIFICATION: SSO6-S1 BOREHOLE DIAMETER: 6" WELL IDENTIFICATION: SSO6-S1	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: WELL CONSTRUCTION COMPLETE DATE:	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40 SCREEN DIAMETER: 1" STRATUM-SCREENED INTERVAL (FT): 40.5-43	TYPE OF WELL CAP: J-Plug TYPE OF END CAP: PVC
CASING MATERIAL: PYC CASING DIAMETER: 1"	COMMENTS:
SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT
	BENTONITE SEAL FILTER PACK
	10hics)
	DEPTH TO TOP OF BENTONITE SEAL
	DEPTH TO TOP OF FILTER PACK 40.C
SCREEN LENGTH 2.5'	DEPTH TO TOP OF SCREEN
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL 430 BOREHOLE DEPTH 43.0
INSTALLED BY: American Environmental Instal	NOT TO SCALE:
DISCREPANCIES:	:
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WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID SSOL - S1

Date	Time	Water Level (FTOC)	Volume Removed (gal)	pН	EC	Temperature F or C	Turbidity/ Sand (ppm)	Comments
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P	oject l	Name	<u></u>	+We	1K	Project N	1746	LTCCOD	E (TRPIMS)	_			56	LPRCODE (RPIMS)	
Drilling Company Driller									Ground Elevation			Total Drilled Depth 33.5				
Drilling Equipment Drilling Method A Borehole Diameter OMETE 94°10 HBA 14"									Drilling Started			Date/Time Total Depth Reached				
									17 1400 el (bgs)		111	110	197/1	<u>130 3:</u>	<u>5.5</u>	
1y	pe of	2 s mbi	mg D	evice	_			First	(U S)		Fi	لعد				
İ	•	lamm	=-	_	Deixi	ng Wt.	Drop	Hydrogeold	chave2	_	Ch.	ecked	by/Date			
Loc		Descr	iption	(include		field logbool						•				
Depth	Interval	Recovery	Blow Counts	erez y er e	(Include	lithology, gra	Description in size, sorting, angul bedding, plasticity, o	arity, Munsell ensity, consiste	color name &	USC\$ Symbol	Lithology	Water Content	(Include all	Remarks	pth, odor,	
_		<u> </u>	ä		.		applicable)			15	_	3		apor measuremen		
				Olso dersi	ry l	- boot	p) IDURE, it states its regently	60 1500 17 15 00 14 15 000) (1) (1)	58		η		0		
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				30 %			ν ω Ο , γεα.	almy Line	,-							



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									ocation					
Project Nee				Project No.	-1	LITCOOPE CONT. (C)				terlocation				
Pilot	Tes	t We	15	Project Nur	146	LTCCODE (TRPIMS)		Sı	<u>55</u>	OSA LPRCODE (TRPIMS)				
Drilling Co.	oopeoy LCAY	ENVI	onnest		n Mathes	Ground Elevation		To	tal Dr	illed Depth 14.5				
Drilling Equ	7	5	Drilling N	SHSA	Borehole Diameter	Date/Time Drilling Started			Date/Time Total Depth Reached 11/5/97 / 1745 14.5'					
Type of San	npling l	Device _				Water Level (bgs) First		F	nal					
Sample Ham Type	mer		Driving \	W:	Drop .	Hydrogeologist B.Chavez		_		by/Date				
Location De	scriptio	n (include :			Diop	13.57000		.1						
Depth Interval Recovery	Blow Counts		(Include lith	ology, grain	Description	ty, Munsell color name &	JSCS Symbol	Lithology	Content	Remarks				
			notation, m	inerology, b	edding, plasticity, den applicable)	sity, consistency, etc., as	USCS	Ę	Water	(Include all sample types & depth, odor, organic vapor measurements, etc.)				
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	FIELD REPRESENTATIVE: B.Chavez	TYPE OF FILTER PACK: Global Sand GRADIATION: 45
	DRILLING CONTRACTOR: American Environments	AMOUNT OF FILTER PACK USED:
	DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 1014 " 10HSA	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED:
- 2	BOREHOLE IDENTIFICATION: SOBA-VE1/MR BOREHOLE DIAMETER: WELL IDENTIFICATION: SSOBA-VE1	O TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
	WELL CONSTRUCTION START DATE: 11/5/97 WELL CONSTRUCTION COMPLETE DATE: 11/5/97	DIMENSIONS OF SECURITY CASING:
	SCREEN MATERIAL: PVC SCHAME 40 SCREEN DIAMETER: 4" STRATUM-SCREENED INTERVAL (FT): 4-14'	TYPE OF WELL CAP:
	CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 4	COMMENTS:
V # - 7 - 3	-	and the first time to the contract of the transfer of the first of the
	CIAL CONDITIONS WELL CAP	SECURITY CASING
(ucs	cribe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	07777	
		GROUND SURFACE (REFERENCE POINT)
		LEGEND
		GROUT BENTONITE SEAL
2.44		FILTER PACK
		DEPTH TO TOP OF BENTONITE SEAL
	•	DEPTH TO TOP OF FILTER PACK 3.5
		DEPTH TO TOP OF SCREEN 4'
	SCREEN LENGTH	
	10'	END CAP
	SAND CELLAR LENGTH	DEPTH TO BASE OF WELL BOREHOLE DEPTH 14.5
	INSTALLED BY: Anurican Environmental INSTA	LLATION OBSERVED BY: Metal 4: Edly In . (B. havez)
	DISCREPANCIES:	·

SSOBA-MPG

FIELD REPRESENTATIVE: B.Chave 2	TYPE OF FILTER PACK: Global Sand
DRILLING CONTRACTOR: American Environmenta	GRADIATION: 45 AMOUNT OF FILTER PACK USED: 7 bags
DRILLING TECHNIQUE: CME 15 AUGER SIZE AND TYPE: 64 10 HSA	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED: 2 Lags
BOREHOLE IDENTIFICATION: SSORA-VEL MP6 BOREHOLE DIAMETER: 10" WELL IDENTIFICATION: SSORA - MP6	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11517 WELL CONSTRUCTION COMPLETE DATE: 11597	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40 SCREEN DIAMETER: 34" STRATUM-SCREENED INTERVAL (FT): 4-14"	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:
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SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
7777	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND CONTROL OF THE PROPERTY
	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL
	3.5
	DEPTH TO TOP OF FILTER PACK
SCREEN	DEPTH TO TOP OF SCREEN
LENGTH	
	END CAP
SAND CELLAR LENGTH	BOREHOLE DEPTH 4.5
	NOT TO SCALE
INSTALLED BY: American E nvironment of STALL	LATION OBSERVED BY: Metcalf-tidheting B. Chave
DISCREPANCIES:	tar tar Canada Maria

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	Name Name		st W	ells	Project Nur	746		LTCCODE (BY	IMS)		1	P_C	~Q	Δ	LPRCO	DE (IRPIMS)	
Drilling Company American Environmental Ron Mathes Ground Elevation											Tot	al Dril	led Dep	4.5			
	g Equip				Method ID HSA	Borehole Dian	eter	Date/Time Drillin	s Started		•	71m		Depth Re	acbed 14	1.5	
Туре	of Samp	ling D	evice					Water Level (bgs First	_ not	ત્ય	1CC Fit		tere	<u>d</u>	1		
Sample Type	Hamm	a	-	Driving	W.	Drop		Hydrogeologis, B.Chav	122		Che	cked	by/Date	:			
	on Desc	ription	(include		eld logbook)	Diop					•					······································	
Depth	Recovery	Blow Counts	:				ngulari iy, den	ty, Munsell color n sity, consistency, e		USCS Symbol	Lithology	Water Content				& depth, odo ements, etc.)	r,
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FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: Global Sitica Sand
DRILLING CONTRACTOR: American Environ	GRADIATION: \$5
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 41/4" 10 H3A	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED: 14 bag
BOREHOLE IDENTIFICATION: SSOBA - ME BOREHOLE DIAMETER: 8" WELL IDENTIFICATION: SSOBA - MPIA	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/5/97 WELL CONSTRUCTION COMPLETE DATE: 11/1	
SCREEN MATERIAL: PVC SCHEDULE 40 SCREEN DIAMETER: 14" STRATUM-SCREENED INTERVAL (FT): 3-8'	TYPE OF END CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 34"	COMMENTS:
LENGTH	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT) LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF SCREEN S' DEPTH TO TOP OF SCREEN DEPTH TO BASE OF WELL BOREHOLE DEPTH NOT TO SCALE
INSTALLED BY: American Environmenta In Discrepancies:	NSTALLATION OBSERVED BY: Metcalf; Eddy Inc (B. Chave
	.

FIELD REPRESENTATIVE: B. Chave2	TYPE OF FILTER PACK: Global Silica Sand
DRILLING CONTRACTOR: American Environment	AMOUNT OF FILTER PACK USED: 3 bags
DRILLING TECHNIQUE: CMC 75 AUGER SIZE AND TYPE: HYA" ID HSA	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED: 2 12 bags
BOREHOLE IDENTIFICATION: SSO8A MP1 BOREHOLE DIAMETER: B' WELL IDENTIFICATION: SSO8A-MP1B	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/5/97 WELL CONSTRUCTION COMPLETE DATE: 11/5/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schidule 40 SCREEN DIAMETER: 314" STRATUM-SCREENED INTERVAL (FT): 9-14' CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 314"	TYPE OF WELL CAP: TYPE OF END CAP: COMMENTS:
SPECIAL CONDITIONS (describe and draw) SCREEN LENGTH SAND CELLAR LENGTH	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT) LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF SCREEN PLOY OF SCREEN END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH LY.5'
INSTALLED BY: ATUVICIN ENVIRONMENTA INSTALI	LATION OBSERVED BY: Metcalf Eddy Try. (B Chaver)
DISCRETATIONS.	

Drillin CM Type Sampi	Private of Same	pany En 25 panent 75 pling D	Aronm Device	Driving	- -	146	meter	Ground Elevation Date/Time Drilling S 11/5/97 11/ Water Level (bgs) First Hydrogeologist	and 45	424	Total Date 11	al Dri	NW of VE1/HPG 18A LPRCODE (IRPIMS) 14.5 14.5 15 Total Depth Reached
	Recovery	Blow Counts		(Include li	thology, grain		ngularit	ry, Munsell color name sity, consistency, etc., s		USC\$ Symbol	Lithology	Water Content	Remarks (include all sample types & depth, odor, organic vapor measurements, etc.)
3			SANT	(et)	p1' Gra 107/104 Ki ourd	uel fill	ich	UKISM, OKO	le.) H		M	Ø
7 9 9		11g ii	10-15	Si	ndent (September 19	e de cele de la faction de la	t Estate 14	. Material	de començão	# (주)		Μ	nganeraka di disebalah di kacamatan di kacamatan di di kacamatan di kacamatan di kacamatan di kacamatan di kac G
			•	Spr	•	-alga Trine	-	material 14.5'		र्ज		M. W.	Ø

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FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: Global Sulca and
DRILLING CONTRACTOR: AMERICAN ENVIRONM	GRADIATION: #5 AMOUNT OF FILTER PACK USED: 21/2
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 41/4" 10 HSA	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED: 214 bag
BOREHOLE IDENTIFICATION: SSOBA - MP2 BOREHOLE DIAMETER: 9 WELL IDENTIFICATION: SSOBA - MP2 A	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/5/97 WELL CONSTRUCTION COMPLETE DATE: 11/5/	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: NC Schedule 40 SCREEN DIAMETER: 34" 10	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 314" 1D	COMMENTS:
CASING DIAMETER.	
SPECIAL CONDITIONS describe and draw) WELL CAP	SECURITY CASING CASING LENGTH ABOVE GROUND SURFACE
77777	DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT BENTONITE SEAL FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL
SCREEN SCREEN	DEPTH TO TOP OF FILTER PACK 2.5' DEPTH TO TOP OF SCREEN 3'
SAND CELLAR LENGTH	END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH 14.5
INSTALLED BY: American Environmental INS	TALLATION OBSERVED BY: Metcalf: Eddy Inct B.Chavez
DISCREPANCIES:	

FIELD REPRESENTATIVE: B. CHAVEZ	TYPE OF FILTER PACK: Global Silica Sand
DRILLING CONTRACTOR: AMERICAN Environmental	GRADIATION: >2
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 4410 HSA	TYPE OF BENTONITE: PWLGOID AMOUNT BENTONITE USED: 12 bag
BOREHOLE IDENTIFICATION: SSOBA-MP2 BOREHOLE DIAMETER: 8 WELL IDENTIFICATION: SSOBA-MP2B	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/5/97 WELL CONSTRUCTION COMPLETE DATE: 11/5/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40 SCREEN DIAMETER: 3/4"	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 'CASING DIAMETER: 3/4"	COMMENTS:
CASINO DIAVIDIDA	-
SPECIAL CONDITIONS (describe and draw)	SECURITY CASING CASING LENGTH ABOVE GROUND SURFACE
	GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL
SCREEN LENGTH	DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN OF SCREEN
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL BOREHOLE DEPTH 14.5
INSTALLED BY: AND KAN INSTALLED BY: DISCREPANCIES:	LATION OBSERVED BY: Met cast ? Eddy Ind B. Chave

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Project 1	17	<u></u>	Wel	15	Project Nu	2746	L	CCODE (TRP	IMS)		Site ID LPRCODE (IRPIMS					ODE (IRPIMS)
	Drilling Company Churchman Driller Ron Mattes Ground Ele										To	tal Dr	illed De	apth	1.5'	
Drilling Equipment Drilling Method Borehole Diameter Date/Time Drilling Star									g Started 1430		Da [1			Depth Re		1456
Type of Sampling Device Water Level (bgs)											-		' 			
1 .	Sample Hammer Hydrogeologist											nal ecked	by/Dat	e		
Type Driving Wt. Drop B.Chwll2 Location Description (include sketch in field logbook)																
Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as											Lithology	Water Content			Remarks	
	ž	읦	<u> </u>			edding, plasticity, applicable)		consistancy, et	C., 25	USC\$ Symbol	13	¥				& depth, odor ements, etc.)
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FIELD REPRESENTATIVE: BChavel	TYPE OF FILTER PACK: Global Sand
DRILLING CONTRACTOR: AMERICAN ENVIRONMENT	GRADIATION: 5 MANOUNT OF FILTER PACK USED: 272 backs
DRILLING TECHNIQUE: CME 15 AUGER SIZE AND TYPE: 474" 10 HSA	TYPE OF BENTONITE: YUL GOU AMOUNT BENTONITE USED: 14 bugs
BOREHOLE IDENTIFICATION: SSOBA MP3 BOREHOLE DIAMETER: S" WELL IDENTIFICATION: SSOBA MP3 A	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/5/97 WELL CONSTRUCTION COMPLETE DATE: 11/5/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 3-8'	TYPE OF WELL CAP: TYPE OF END CAP: COMMENTS:
CASING MATERIAL: NC Schedule 40 CASING DIAMETER: 34"	•
SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT BENTONITE SEAL FILTER PACK
SCREEN	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN DEPTH TO TOP OF SCREEN
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL BOREHOLE DEPTH 14.5 '
INSTALLED BY: ATWICAN ENVIRONMENTS INSTAL	LATION OBSERVED BY: Mctalf + Eddy Inc + B.Chavez)
DISCREPANCIES:	

FIELD REPRESENTATIVE: B.Chave2	Type of filter pack: Alobal Sand GRADIATION: 1772 PACK USED: 1/2 hacs
DRILLING CONTRACTOR: American Envir	GRADIATION: 5 ON DESCRIPTION OF FILTER PACK USED: 2/2 bags
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 4" ID HSA	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOBA - MP3 WELL IDENTIFICATION: SSOBA - MP3	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 145 9 WELL CONSTRUCTION COMPLETE DATE: 14 SCREEN MATERIAL: NC Scholul 4	D TYPE OF WELL CAP:
SCREEN DIAMETER:	TYPE OF END CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 34"	
SPECIAL CONDITIONS (describe and draw)	SECURITY CASING CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND GROUT
	BENTONITE SEAL FILTER PACK
	Q'
	DEPTH TO TOP OF BENTONITE SEAL
—— ——	DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN
SCREEN LENGTH	
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL BOREHOLE DEPTH 145
INSTALLED BY: Anuran Environmental I	NOT TO SCALE NO
DISCREPANCIES:	· · · · · · · · · · · · · · · · · · ·

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F	rojeca Pi	101	W	ellTe	st	Project Nur O2	1746	LTCCODE (IRPIMS)		Sit	Site ID LPRCODE (IRPIMS				
	M/	, Com VIC	n E	- NVIVON	mental	Ron	Mathes	Ground Elevation		Total Drilled Depth					
			75			DHSA	Borehole Diameter	Date/Time Drilling Started				ne Total Depth Res	095/135'		
T	Type of Sampling Device Water Level (bgs) First										nal				
		Hamn) pro-		1 24	164	Hydrogeologist				by/Date			
I.	Type Working Wt. 100 Drop 8 - Location Description (include sketch in field logbook)														
-															
4	Interval	Recovery	Blow Counts	1200	j Include lit	ر سازران این مادسه رسماه	Description	ty, Munsell color name &	ymbo	200	Content		Remarks		
	Inte	Rec			nounce, n	imerology, o	eccing, plasticity, den applicable)	sity, consistency, etc., as	USCS Symbol	Lithology	Water	(include all sam	ple types & depth, odor,		
3		181	417 9,9	SAND	157) (015) 214.2	公方	6 brownis	Mellow, Mellow, Mellow, Mark	Topic Control			(Ø		
4			3,3 45			: 172 ! S.O.T		man and mark	P				Ø		
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FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: Global Silica Sand GRADIATION: #5
DRILLING CONTRACTOR: American Environmental DRILLING TECHNIQUE: CME 15 AUGER SIZE AND TYPE: 44 10 HSP	TYPE OF BENTONITE: Pure Gold AMOUNT BENTONITE USED: 13/4 bags
BOREHOLE IDENTIFICATION: SSORA-MPH BOREHOLE DIAMETER: 6 WELL IDENTIFICATION: 5508A-MPHA	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/5/97 WELL CONSTRUCTION COMPLETE DATE: 11/5/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: WC Schedule 40 SCREEN DIAMETER: 34° STRATUM-SCREENED INTERVAL (FT): 3'-8' CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 34°	TYPE OF WELL CAP: TYPE OF END CAP: COMMENTS:
SCREEN LENGTH SAND CELLAR LENGTH INSTALLED BY: MENUCON EN MONAGO INSTALL DISCREPANCIES:	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD GROUND SURFACE (REFERENCE POINT) LEGEND GROUT BENTONITE SEAL DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN DEPTH TO TOP OF SCREEN BOREHOLE DEPTH NOT TO SCALE LATION OBSERVED BY: McCalf; Labs Tac. & B. Chawez
DISCREPANCIES.	

FIELD REPRESENTATIVE: B.Charle	TYPE OF FILTER PACK: Global Silica Sand
DRILLING CONTRACTOR: AMERICAN ENVIRONMENT	GRADIATION: 45 MANOUNT OF FILTER PACK USED: 2/4
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 4.74"10 HSA	TYPE OF BENTONITE: PURCHOLD AMOUNT BENTONITE USED: 14 bag
BOREHOLE IDENTIFICATION: SSO8A-MP4-B BOREHOLE DIAMETER: USBORE-MP4-B	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/5/97 WELL CONSTRUCTION COMPLETE DATE: 11/5/97	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: NC Schedule 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 9-14	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER:	COMMENTS:
SPECIAL CONDITIONS (describe and draw)	SECURITY CASING CASDIGLEDICATION ADDRESS CONTROLLED CO
	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
	GROUT
	BENTONITE SEAL
	FILTER PACK
	8'
	DEPTH TO TOP OF BENTONITE SEAL
	DEPTH TO TOP OF FILTER PACK Pack_
	DEPTH TO TOP OF SCREEN 9 Zwells
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
<u>-5'</u>	END CAP SCALOR
SAND CELLAR	DEBTUTO BASE OF NUTL 4
LENGTH	BOREHOLE DEPTH 145'
Λ	NOT TO SOUT
INSTALLED BY: ANUICON ENVIRONMENTAL INSTAL	NOT TO SCALE LATION OBSERVED BY: Milcalf-Flour Pre. +B. Chave-
DISCREPANCIES:	
AFCEE F	ORM WAA.11

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						'NE of VEILIMPG
Project Name	est wells	Project Number 021744	LTCCODE (IRPIMS)		SS	LPRCODE (TRPIMS)
Drilling Comp	any .		Ground Elevation			Drilled Depth
	n Environmental	Fon Mathes				
Orilling Equips	75 Prilling	Method Borehole Diameter			Time Total Depth Reached 14.5 \$4	
Type of Sampl		•			0	
Sample Hamme	<u></u>		First Hydrogeologist		Final	ed by/Date
Туре	Driving	Wt. Drop	B. Chavez			
Location Descr	iption (include sketch in f	ield logbook)				
	된	Description		2	Ţ	E Remarks
Depth Interval Recovery	Connection,	thology, grain size, sorting, angular	ity, Munsell color name &	Symbol	Lithology	Remarks
Rec I	notation,	minerology, bedding, plasticity, der applicable)		USCS	3	(Include all sample types & depth, odor, organic vapor measurements, etc.)
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750EX-N.46A

FIELD REPRESENTATIVE: B.Chave 2	TYPE OF FILTER PACK: Global Sand
DRILLING CONTRACTOR: American Environme	GRADIATION: 45 AMOUNT OF FILTER PACK USED: 4
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 44"10 HSA	TYPE OF BENTONITE: Rucasid Chips AMOUNT BENTONITE USED: 1/4
BOREHOLE IDENTIFICATION: SSORA - MP5 TO BOREHOLE DIAMETER: 6" WELL IDENTIFICATION: SSORA · MP5A	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/6/97 WELL CONSTRUCTION COMPLETE DATE: 11/6/	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PVC Schedule 40 SCREEN DIAMETER: 3/4° STRATUM-SCREENED INTERVAL (FT): 3-8°	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: PVC schedule 40 CASING DIAMETER:	COMMENTS:
	tim takin sagan ing palaman ng manan na ang makanan da ang manan na manan na manan na manan na manan na manan
SPECIAL CONDITIONS WELL CAR.	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND
	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL
	DEPTH TO TOP OF FILTER PACK 2.5
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
5	END CAP
SAND CELLAR LENGTH	BOREHOLE DEPTH 4.5
INSTALLED BY: Anerican Environment INST	TALLATION OBSERVED BY: Mycalf Eddy Inc. B. Clarez
DISCREPANCIES:	

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		oject 1				,	Project Nur			LTCCODE (IRPIMS)		Site	. ID	08B	LPRCODE (IRPIM	
	_		ot Test Well 021746 ng Company Driller							Ground Elevation		_	tal Drilled Depth			
	American Environments Ron Hather											Post	- (Ti-	35.5 e Total Depth Re		
	Drilling Equipment Drilling Method Borehole Diameter Date/Time Drilling Started CME 75 94" IDHSA 14" IN 1197 0917													97/110		. ·
	Type of Sampling Device Water Level (bgs) First											Final				
	Sample Hammer Hydrogeologist R. Ch Q Ve Z											Coc	cked	by/Date		
	Type Driving Wt. Drop D. C. C. Location Description (include sketch in field logbook)											!				
	<u> </u>			1	1			D			- I		·		Remarks -	
are some	Depth	Interval	Recovery	low Counts	1	include lit notation, r	bology, grain ninerology, b	edding, plasticity	gularit /, dens	y, Munsell color name & ity, consistency, etc., as	USCS Symbol	Lithology	Vater Conte	•	iple types & depth, or	
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		=	=		•	· .	- J1	-								

												5'	South of VE1/MP6				
		211	Name O	To	est W	111	Project Nu	744	LTCCODE (IRPIMS)		Si	E ID	SOBB LPRCODE (TRPIMS)				
			(S)		Dvirdar	nental	Driller	Hathes	Ground Elevation								
	Drill	ing :	Equip	75		Drilling 1		Borehole Diameter	Date/Time Drilling Started	7			ne Total Depth Reached				
	Type of Sampling Device Water Level (bgs)											11/1/97 / 1102 -32.5					
	Sample Hammer Hydrogeologist											nal ecked	by/Date				
	Type Driving Wt. — Drop — B. Chave 2 Location Description (include sketch in field logbook)										<u> </u>						
	\vdash		,	뒽	<u> </u>		·	Description		12	T	E	Remarks				
	Depth	Interval	Recovery	Blow Counts	'	notation, p	ninerology, b	edding, plasticity, der	ity, Munsell color name & assity, consistency, etc., as	JSCS Symbol	Lithology	Water Content	(Include all sample types & depth, odor.				
1011		<u>-</u>		2,5	(21-23 (.5m loose	spin) Spin Sim) Su Sign I ou	ND(SW Uzbur Uplast) fine san nded to su rsity, we	d to meduin trounded,	SW		W	organic vapor measurements, etc.)				
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						W	nd o	} boring	٦								

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B Chavez	TYPE OF FILTER PACK: WOODS CAN
DRILLING CONTRACTOR: Anuican Environment	GRADIATION: 45 U
	Q
DRILLING TECHNIQUE: CME 75	TYPE OF BENTONITE: Rue Yold.
AUGER SIZE AND TYPE: 44" 17 HSA	AMOUNT BENTONITE USED: 24
BOREHOLE IDENTIFICATION: 5508-51	TYPE OF CEMENT:
BOREHOLE DIAMETER:	AMOUNT CEMENT USED:
WELL IDENTIFICATION: SSOB-S1	GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: WILL 97 WELL CONSTRUCTION COMPLETE DATE: WILL 97	DIMENSIONS OF SECURITY CASING:
	•
SCREEN MATERIAL: 1NC Scholul 40	TYPE OF WELL CAP:
SCREEN DIAMETER: 1° STRATUM-SCREENED INTERVAL (FT): 32.5-35	TYPE OF END CAP:
	COMMENTS:
CASING MATERIAL: WC Scholur 40	•
CASING DIAMETER:	
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SPECIAL CONDITIONS WELL CAP	SECURITY CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE
	DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LECTION
	A LEGEND of the second
	GROUT
	BENTONITE SEAL
	FILTER PACK
	_ /
	DEPTH TO TOP OF BENTONITE SEAL
	DEPTH TO TOP OF FILTER PACK 32.0'
	DEPTH TO TOP OF FILTER PACK
	DEPTH TO TOP OF SCREEN 32.5
SCREEN	DEPTH TO TOP OF SCREEN
LENGTH.	
<u> </u>	END CAP
	DEPTH TO BASE OF WELL 35.0
SAND CELLAR LENGTH	25.5
	BOREHOLE DEPTH
•	,
INSTALLED BY: Anul (2) English and INSTAL	LATION OBSERVED BY: MF (8 Chairs)
	W. T. T. C. C. C. C. C. C. C. C. C. C. C. C. C.
DISCREPANCIES:	·

													
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		Name ot		st We	11	Project Nu	mber 1746	LTCCODE (IRPIMS)		Sit	<u>, n</u> SS	:08B	LPRCODE (IRPIMS)
		Com				Driller		Ground Elevation		To		ilied Depth	
				Enviro			in Hather			1_		32.5	- 1 >
Drilling Equipment Drilling Method Borehole Diameter Q4" 10HSA 14"						Date/Time Drilling Started	1	Date/Time Total Depth Reached					
\vdash					1 7 4	IDHSA	14"	11/12/97/ 0830)	1 '	1/13	497	1215 32.51
L	pe of	Samp	ling I	Device				Water Level (bgs) First		Fi	nal		
Sar		iamm			Driving	wı	Drop	Hydrogeologiss B. Chavez		Ca.	ecked	by/Date	
$\overline{}$	-	Desc	riptio	n (include s		eld logbook)					•		
Depth	Interval	Recovery	Blow Counts					ity, Munsell color name &	USCS Symbol	Lithology	ater Content	(Include all san	Remarks
_	L		画				applicable)		S		3		or measurements, etc.)
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	FIELD REPRESENTATIVE: B. Chavcz	TYPE OF FILTER PACK: glopal Sand
		GRADIATION: Krie Sena
	DRILLING CONTRACTOR: American Environment	
	DRILLING TECHNIQUE: CME75	TYPE OF BENTONITE: Pure Gold Holephy
• • • • • • • • • • • • • • • • • • • •	AUGER SIZE AND TYPE: 91/4" ID HSA	AMOUNT BENTONITE USED:
	BOREHOLE IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT:
	BOREHOLE DIAMETER: 14"	AMOUNT CEMENT USED:
	WELL IDENTIFICATION: SSO8B-MP	GROUT MATERIALS USED:
.	WELL CONSTRUCTION START DATE: 11/12/97	en en en en en en en en en en en en en e
	WELL CONSTRUCTION COMPLETE DATE: 11/12/97	DIMENSIONS OF SECURITY BOX:
	SCREEN MATERIAL: PVC Schidule 40	TYPE OF WELL CAP:
	SCREEN DIAMETER: 3/4 "	TYPE OF END CAP:
	STRATUM-SCREENED INTERVAL (FT): 5-6	COMMENTS:
	CASING MATERIAL: PVC Schedule 40	
	CASING DIAMETER: 3/4"	
	and the state of t	The property of the control of the c
e de de de de de de de de de de de de de	and any contribution to the same with the contribution of the cont	GROUND SURFACE (REFERENCE POINT)
SP	ECIAL CONDITIONS WELL CAP	SECURITY BOX
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		GROUT
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		BENTONITE SEAL
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		FII TER PACK
		FILTER PACK
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		DEPTH TO TOP OF BENTONITE SEAL
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		DEPTH TO TOP OF BENTONITE SEAL 4/2'
		DEPTH TO TOP OF BENTONITE SEAL 4/2'
	SCREEN	DEPTH TO TOP OF BENTONITE SEAL $\frac{\phi'}{5'}$
	SCREEN LENGTH	DEPTH TO TOP OF BENTONITE SEAL $\frac{\phi'}{\psi'_2'}$
	; P T	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK 5'
	LENGTH	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP
	; P T	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP DEPTH TO BASE OF WELL 22 5
	SAND CELLAR	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP
	SAND CELLAR	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH 32.5'
	SAND CELLAR	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP DEPTH TO BASE OF WELL 22 5
	SAND CELLAR LENGTH	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH NOT TO SCALE
·	SAND CELLAR	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH NOT TO SCALE

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	TYPE OF FILTER PACK: global Sand GRADIATION: the
DRILLING CONTRACTOR: American Environment	
DRILLING TECHNIQUE: CMENS AUGER SIZE AND TYPE: 94.10 HSA	TYPE OF BENTONITE: Pure Hold Holephia AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/12/97 WELL CONSTRUCTION COMPLETE DATE: 11/12/57	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIQUE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 12-13:	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS:
SPECIAL CONDITIONS (describe and draw)	SECURITY BOX
errie in jane men errein ist gebiene bid in den bestelle de de de de de de de de de de de de de	LEGEND GROUT
	GROUT BENTONITE SEAL
	GROUT ■ BENTONITE SEAL □ FILTER PACK
SCREEN	GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL
SCREEN LENGTH	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN 12' END CAP DEPTH TO BASE OF WELL 3'
SCREEN LENGTH	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN 12' END CAP DEPTH TO BASE OF WELL 3'
SAND CELLAR	DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN 12' END CAP DEPTH TO BASE OF WELL 2'
SCREEN LENGTH SAND CELLAR	GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL 1 / 2 DEPTH TO TOP OF SCREEN 12 END CAP DEPTH TO BASE OF WELL 3 BOREHOLE DEPTH 32 5 NOT TO SCALE

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global Sand GRADIATION: #5
DRILLING CONTRACTOR: American Environment	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CMETS AUGER SIZE AND TYPE: 4'4" ID HSA	TYPE OF BENTONITE: Pure Hold Holeplug AMOUNT BENTONITE USED: 7
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: L4"? WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/17/67 WELL CONSTRUCTION COMPLETE DATE: 11/17/6	1 DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDUL 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 18-19	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS:
	e demonstration of the second
and the second of the control of the control of the second	GROUND SURFACE (REFERENCE POINT)
PECIAL CONDITIONS escribe and draw)	SECURITY BOX
	LEGEND GROUT BENTONITE SEAL FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 131/2
•••	DEPTH TO TOP OF FILTER PACK
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
SAND CELLAR	END CAP DEPTH TO BASE OF WELL
LENGTH	BOREHOLE DEPTH 32.5
	NOT TO SCALE
INSTALLED BY: American Environmental INSTA	ILLATION OBSERVED BY: Metro 16 February (BCm)
INSTALLED BY: FATICATION TO TOTAL TIME INSTA	ELATION OBSERVED BI. TETERIT TORING STET STET GO

	LD REPRESENTA	TIVE: B. Chave	TYPE OF FILTER PACK: global sand GRADIATION: 45
DR	ILLING CONTRAC	TOR: American E	OKADIATION:
DR AU	ILLING TECHNIQU GER SIZE AND TY	UE: <u>CME75</u> PE: <u>914" 10 HS</u> A	TYPE OF BENTONITE: Pure Gold Holeplug AMOUNT BENTONITE USED: 6
BO	REHOLE DIAMETE	ICATION: <u>SSO8B-1</u> ER: <u>14"</u> ON: <u>SSO8B- M</u> F	AMOUNT CEMENT USED:
		ON START DATE: 10 ON COMPLETE DATE:	
SCR	EEN DIAMETER:	PVC SCLIDUL 3/4" DINTERVAL (FT): 2	TYPE OF END CAP:
		PVC schedule	<u>40</u>
— CAS	SING DIAMETER: _	2/4	
	,		GROUND SURFACE (REFERENCE POINT)
	L CONDITIONS and draw)	WELL CAP	SECURITY BOX
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in the contract of the second of	to organization and the second	tyrinter og er tokkriveter i g	BENTONITE SEAL
	٠		FILTER PACK
			DEPTH TO TOP OF BENTONITE SEAL 1912
			DEPTH TO TOP OF FILTER PACK 23½
	:	SCREEN LENGTH	DEPTH TO TOP OF SCREEN
			END CAP
	S.A.	AND CELLAR LENGTH	DEPTH TO BASE OF WELL 25' BOREHOLE DEPTH 32,5'

DISCREPANCIES:

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global sand GRADIATION: #5
DRILLING CONTRACTOR: American Environments	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 91/4" 10 HSA	TYPE OF BENTONITE: Pure Hold Holeplug AMOUNT BENTONITE USED: 7
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/12/97 WELL CONSTRUCTION COMPLETE DATE: 11/12/97	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4"	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS:
CASING DIAWETER	
angunan kalandaran kecamatan dari dari dari dari dari dari dari dari	GROUND SURFACE (REFERENCE POINT)
describe and draw)	
	LEGEND GROUT
	BENTONITE SEAL FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 25.5'
	DEPTH TO TOP OF FILTER PACK 30.5
:	
SCREEN LENGTH	DEPTH TO TOP OF FILTER PACK
LENGTH	DEPTH TO TOP OF SCREEN 31'
	END CAP DEPTH TO BASE OF WELL 32
SAND CELLAR	END CAP DEPTH TO BASE OF WELL 32'

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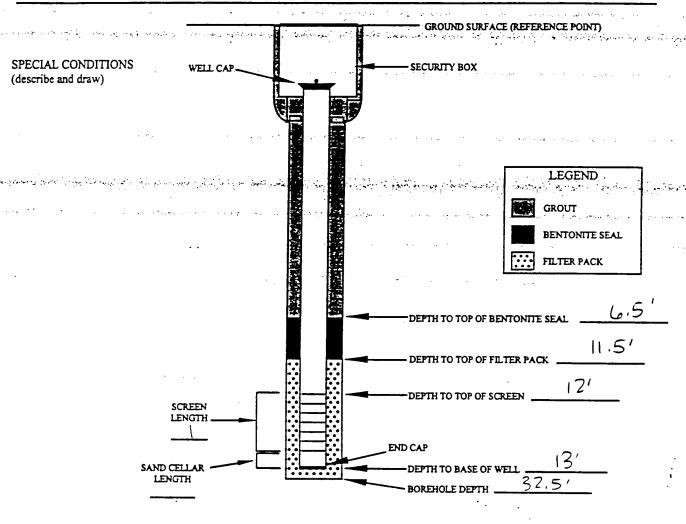
INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcolf: Fally Inc (B. Cravez)
DISCREPANCIES:

NOT TO SCALE

W.FZF

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global sand
	GRADIATION: FINE
DRILLING CONTRACTOR: American Environments	AMOUNT OF FILTER PACK USED: +
DRILLING TECHNIQUE: CMETS AUGER SIZE AND TYPE: 4'4" ID HSA	TYPE OF BENTONITE: Pure Gold Holephic AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
 WELL CONSTRUCTION START DATE: 111297 WELL CONSTRUCTION COMPLETE DATE: 111297	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIQUE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 12-13:	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:



NOT TO SCALE

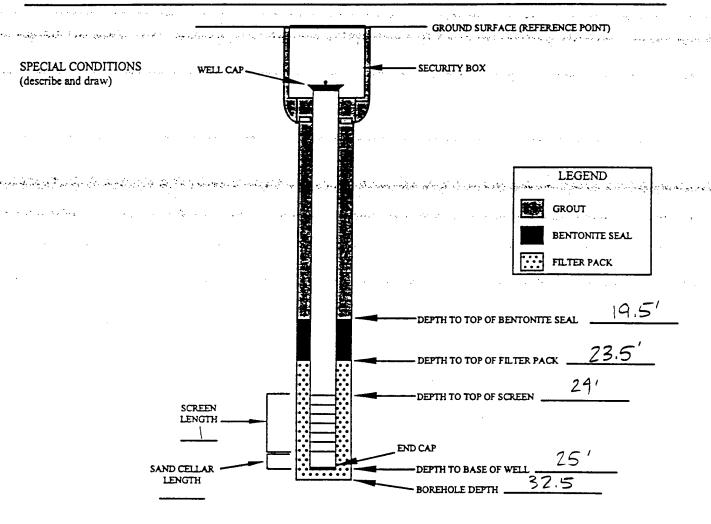
INSTALLED BY: American Environmental	INSTALLATION OBSERVED BY: Hetcolf; E	Edy Inc	B.Cravez
DISCREPANCIES:	•	•	

	FIELD REPRESENTATIVE: B. Cho	VCZ	TYPE OF FILTER PACK: 96	Jac 30 42
	DRILLING CONTRACTOR: AMERICA	(ED:
				u Gold/ Holephig
	DRILLING TECHNIQUE: CMETS AUGER SIZE AND TYPE: 9'/4" 10	HSA-	AMOUNT BENTONITE USED:	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	BOREHOLE IDENTIFICATION: 5508	R-MP	TYPE OF CEMENT:	
	BOREHOLE DIAMETER: 14"		AMOUNT CEMENT USED:	
	WELL IDENTIFICATION: SSO8B-	MP	GROUT MATERIALS USED:	
	WELL CONSTRUCTION START DATE: WELL CONSTRUCTION COMPLETE DA	TE: 1112197	DIMENSIONS OF SECURITY B	OX:
	SCREEN MATERIAL: PVC SCLID	ule 40	TYPE OF WELL CAP:	
	SCREEN DIAMETER: 3/4"		TYPE OF END CAP:	•
	STRATUM-SCREENED INTERVAL (FT):	<u>B-19.</u>	COMMENTS:	
	CASING MATERIAL: PVC Schedu	ue 40	00.12.12.11.10.	
	CASING DIAMETER: 3/4"		•	
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The Property of the Control of the C	SCREEN LENGTH		DEPTH TO TOP OF BE DEPTH TO TOP OF FILE DEPTH TO TOP OF SCI	GROUT BENTONITE SEAL FILTER PACK NTONITE SEAL 17.5' TER PACK 17.5' TER PACK 19'
die Spagner	SCREEN LENGTH		DEPTH TO TOP OF BE DEPTH TO TOP OF SCI END CAP	GROUT BENTONITE SEAL FILTER PACK NTONITE SEAL 17.51 TER PACK 181
the Super State	SCREEN LENGTH		DEPTH TO TOP OF BE DEPTH TO TOP OF FIL DEPTH TO TOP OF SCI END CAP DEPTH TO BASE OF W	GROUT BENTONITE SEAL FILTER PACK NTONITE SEAL 17.5' TER PACK 17.5' TER PACK 19'
distribution of the second	SCREEN LENGTH		DEPTH TO TOP OF BE DEPTH TO TOP OF FIL DEPTH TO TOP OF SCI END CAP DEPTH TO BASE OF W	GROUT BENTONITE SEAL FILTER PACK NTONITE SEAL 17.5' TER PACK 17.5' TER PACK 19'
	SCREEN LENGTH		DEPTH TO TOP OF BE DEPTH TO TOP OF FIL DEPTH TO TOP OF SCI END CAP DEPTH TO BASE OF W BOREHOLE DEPTH	GROUT BENTONITE SEAL FILTER PACK NTONITE SEAL 17.5' TER PACK 18' REEN 19' 32.5' NOT TO SCALE

MP2D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global Sand GRADIATION: # 5
DRILLING CONTRACTOR: AMERICAN ENVIRONMENTS	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 944110 HSA	TYPE OF BENTONITE: Pure Gold Holophig AMOUNT BENTONITE USED: 4
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT:
WELL CONSTRUCTION START DATE: 11/12/97 WELL CONSTRUCTION COMPLETE DATE: 11/12/97	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 24-15	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:



NOT TO SCALE

INSTALLED BY: American Environmental	INSTALLATION OBSERVED BY:	Yetcolf: Tally	Inc(B.Cr	avez)
DISCREPANCIES:	•			

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global Sand GRADIATION: #5
DRILLING CONTRACTOR: American Environment	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CME75 AUGER SIZE AND TYPE: 94110 HSA	TYPE OF BENTONITE: Pure Gold Holeplug AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 1112/57 WELL CONSTRUCTION COMPLETE DATE: 1112/57	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIQUE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 21-32	TYPE OF WELL CAP: TYPE OF END CAP: COMMENTS:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS.
SPECIAL CONDITIONS WELL CAP (describe and draw)	GROUND SURFACE (REFERENCE POINT) SECURITY BOX
SCREEN LENGTH SAND CELLAR LENGTH INSTALLED BY: AMERICAN Environmental INSTAL	BOREHOLE DEPTH
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DISCREPANCIES:	

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global Sand GRADIATION: #5
DRILLING CONTRACTOR: American Environment	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CMETS AUGER SIZE AND TYPE: 91/4" ID HSA	TYPE OF BENTONITE: Pure Gold Holeplug AMOUNT BENTONITE USED: 4
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/97 WELL CONSTRUCTION COMPLETE DATE: 11/13/97	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLULUL 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 5 - U .	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:
	GROUND SURFACE (REFERENCE POINT)
SPECIAL CONDITIONS WELL CAP (describe and draw)	SECURITY BOX
SCREEN LENGTH SAND CELLAR LENGTH	LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH 25.5'
	NOT TO SCALE
INSTALLED BY: American Environmental INSTAL	LATION OBSERVED BY: Metcalf: Taly Inc (B. Chavez)
DISCREPANCIES:	•
AFCEE F	ORM WAB.11

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global Sand
DRILLING CONTRACTOR: American Environments	AMOUNT OF FILTER PACK USED: 2
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 9'4" 10 HSA	TYPE OF BENTONITE: Pure Hold Holeplug AMOUNT BENTONITE USED: 3
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/57 WELL CONSTRUCTION COMPLETE DATE: 11/13/57	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 12-13.	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS:
CASING DIAMETER. 94	•
SPECIAL CONDITIONS WELL CAP	GROUND SURFACE (REFERENCE POINT) SECURITY BOX
(describe and draw)	
	LEGEND GROUT BENTONITE SEAL FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 1
×	DEPTH TO TOP OF FILTER PACK
SCREEN LENGTH	DEPTH TO TOP OF SCREEN 1243
	END CAP
SAND CELLAR LENGTH	BOREHOLE DEPTH 25.5
	NOT TO SCALE
INSTALLED BY: American Environmental INSTALL	ATION OBSERVED BY: Metcolf: Fally Inc(B.Cravez
DISCREPANCIES:	
AFCEE FO	RM WAB.11

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chayez Type OF FILTER PACK: global Sand GRADIATION: 15
DRILLING CONTRACTOR: AMERICAN Environment AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CME75 AUGER SIZE AND TYPE: 9'4" 10 HSA TYPE OF BENTONITE: Pure Gold Holeplug AMOUNT BENTONITE USED: 3
BOREHOLE IDENTIFICATION: \$508B-MP TYPE OF CEMENT: BOREHOLE DIAMETER: 14" AMOUNT CEMENT USED: WELL IDENTIFICATION: \$508B-MP GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/17 DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 18-19 . CONDITION:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4" COMMENTS:
SPECIAL CONDITIONS describe and draw) LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter Fixed In Table Inc. BECURITY BOX LEGEND DEPTH TO TOP OF BENTONITE SEAL 13/2 DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter In Table Inc. INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter In Table Inc. INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter In Table Inc. INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter In Table Inc. INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter Inc. INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter Inc. INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter Inc. INSTALLED BY: AMERICAN Enjayonments INSTALLATION OBSERVED BY: Letter Inc. INSTALLED BY
INSTALLED BY: AMERICAN Environmental INSTALLATION OBSERVED BY: Metcolf: Tody Inc (B. Chavez)
DISCREPANCIES:

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global sand GRADIATION: #5
DRILLING CONTRACTOR: American Environments	AMOUNT OF FILTER PACK USED: 1/2
DRILLING TECHNIQUE: CMENS AUGER SIZE AND TYPE: 91/41110 HSA	TYPE OF BENTONITE: Pure Gold Holeplug AMOUNT BENTONITE USED: 3
BOREHOLE IDENTIFICATION: SSOBB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOBB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/3/57 WELL CONSTRUCTION COMPLETE DATE: 11/3/57	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDUL 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 24-25.	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:
SPECIAL CONDITIONS (describe and draw) SCREEN LENGTH SAND CELLAR LENGTH	DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP DEPTH TO BASE OF WELL A 5 1 5 1 BOREHOLE DEPTH NOT TO SCALE
INSTALLED BY: American Environmental INSTALL	LATION OBSERVED BY: Hetcalf; Fally Inc (B. Cravez)
DISCREPANCIES:	

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global sand GRADIATION: 45
DRILLING CONTRACTOR: American Environment	
DRILLING TECHNIQUE: CMETS AUGER SIZE AND TYPE: 9'4" 10 HSA	TYPE OF BENTONITE: Pure Hold Holeplug AMOUNT BENTONITE USED: 8
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/57 WELL CONSTRUCTION COMPLETE DATE: 11/13/57	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 5-12	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS:
SPECIAL CONDITIONS WELL CAR	GROUND SURFACE (REFERENCE POINT)
(describe and draw)	SECURITY BOX
SCREEN LENGTH SAND CELLAR LENGTH	LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN END CAP DEPTH TO BASE OF WELL BOREHOLE DEPTH 25.5'
	NOT TO SCALE
INSTALLED BY: AMERICAN Environmental INSTALL DISCREPANCIES:	ATION OBSERVED BY: Metcalfortally Inc(B.Cravez)
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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global sand GRADIATION: #5
DRILLING CONTRACTOR: American Environment	TYPE OF BENTONITE: Pure Hold Holeplug
AUGER SIZE AND TYPE: 91/4110 HSA	AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/17 WELL CONSTRUCTION COMPLETE DATE: 11/13/19	7 DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIQUE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 12-13	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:
SPECIAL CONDITIONS WELL CAP (describe and draw)	GROUND SURFACE (REFERENCE POINT) SECURITY BOX
SCREEN LENGTH	LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF FILTER PACK DEPTH TO TOP OF SCREEN DEPTH TO BASE OF WELL BOREHOLE DEPTH NOT TO SCALE
INSTALLED BY: American Environmental INST	ALLATION OBSERVED BY: Metcalfitally Inc (B. Chavez)
DISCREPANCIES:	

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavcz	
FIELD REPRESENTATIVE: D. C. W.V.C.Z.	TYPE OF FILTER PACK: global Sand GRADIATION: 45
DRILLING CONTRACTOR: American Environments	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CMENS AUGER SIZE AND TYPE: 91/4" 10 HSA	TYPE OF BENTONITE: Pure Hold Holephag AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/97 WELL CONSTRUCTION COMPLETE DATE: 11/13/97	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 19-19-	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40 CASING DIAMETER: 3/4"	COMMENTS:
SPECIAL CONDITIONS (describe and draw)	SECURITY BOX
	LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL
SCREEN LENGTH SAND CELLAR LENGTH	DEPTH TO TOP OF FILTER PACK 17½ DEPTH TO TOP OF SCREEN [8' END CAP DEPTH TO BASE OF WELL [9' BOREHOLE DEPTH 25.5'
:	NOT TO SCALE

INSTALLED BY: American Environmental Installation observed by: Metcalf; Fally Inc (B.Chavez) discrepancies:

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WELL CONSTRUCTION DETAIL	LS AND ABANDONMENT FORM
· · · · · · · · · · · · · · · · · · ·	TYPE OF FILTER PACK: global sand GRADIATION:
DRILLING CONTRACTOR: American Environments	AMOUNT OF FILTER PACK USED: 2
DRILLING TECHNIQUE: CMENS AUGER SIZE AND TYPE: 9'4" (D HSA	TYPE OF BENTONITE: Pure Hold Holping AMOUNT BENTONITE USED: 4
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 14/13/57 WELL CONSTRUCTION COMPLETE DATE: 11/13/57	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT):	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS:
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(describe and draw)	LEGEND
	BENTONITE SEAL FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 191/2
•	DEPTH TO TOP OF FILTER PACK 231/2
SCREEN LENGTH	DEPTH TO TOP OF SCREEN 24'
SAND CELLAR LENGTH	DEPTH TO BASE OF WELL 25' BOREHOLE DEPTH 25.5'
	NOT TO SCALE
INSTALLED BY: American Environmental INSTALL	ATION OBSERVED BY: Metcalf: Folly Inc (B. Cravez)
DISCREPANCIES:	
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	Drilling (-	Environmente	Driller	nHather	Ground Elevation		Tot	al Dri	lied Depth	25.5	-1
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	Cin	1E	75	94	" IDHSA	Borehole Diameter	11/13/97 09		-	13	e Total Depth I	-	5.5
	Type of S	Sampli	ing D	evice			Water Level (bgs) First		Fi	nai			
	Sample H	amme	T	Driving	. w ₁	Drop	Hydrogeologist B. Chave	2	Съ	ecked	by/Date	-	
		Descri	ption	(include sketch in f		Diop							
the state of the s	Depth Interval	Recovery	Blow Counts				rity, Munsell color name		Lithology	Water Content	(include all s	Remarks	& depth, odor,
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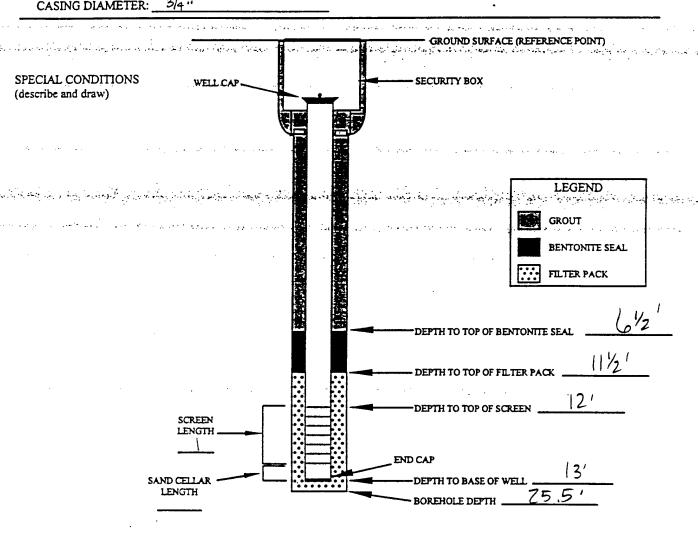
WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global sand GRADIATION: #5
DRILLING CONTRACTOR: American Environment	AMOUNT OF FILTER PACK USED: 2
DRILLING TECHNIQUE: CME75 AUGER SIZE AND TYPE: 9'4" 10 HSA	TYPE OF BENTONITE: Pure Gold Holiphig AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/97 WELL CONSTRUCTION COMPLETE DATE: 11/13/9	7DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4 " STRATUM-SCREENED INTERVAL (FT): 5-6.	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS:
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alla la real a regional de la companya de la companya de la companya de la companya de la companya de la compa	GROUND SURFACE (REFERENCE POINT)
SPECIAL CONDITIONS WELL CAP	SECURITY BOX
	LEGEND GROUT
	BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL
	41/2'
<u> </u>	DEPTH TO TOP OF FILTER PACK
SCREEN LENGTH	DEPTH TO TOP OF SCREEN
<u> </u>	END CAP
SAND CELLAR	DEPTH TO BASE OF WELL
LENGTH	BOREHOLE DEPTH 25.5'
	NOT TO SCALE
INSTALLED BY: American Environmental INSTAL	LATION OBSERVED BY: Metcalf: Fally Inc (B. Cravez)
DISCREPANCIES:	

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WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: global sand
DRILLING CONTRACTOR: AMERICAN ENVIRONMENTE	AMOUNT OF FILTER PACK USED:
DRILLING TECHNIQUE: CMENS AUGER SIZE AND TYPE: 944 10 HSA	TYPE OF BENTONITE: Pure Gold Holping AMOUNT BENTONITE USED:
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/97-WELL CONSTRUCTION COMPLETE DATE: 11/13/97	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDULE 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 12-13.	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schedule 40	COMMENTS:



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalfitaly Inc (B. Cravez)
DISCREPANCIES:

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WELL CONSTRUCTION DETAIL	LS AND ABANDONMENT FORM
FIELD REPRESENTATIVE: B. Chavez	TYPE OF FILTER PACK: A COLLECTION OF THE PACK.
DRILLING CONTRACTOR: American Environment	GRADIATION: 45 AMOUNT OF FILTER PACK USED: 3
DRILLING TECHNIQUE: CME 75 AUGER SIZE AND TYPE: 9'4" 10 HSA	AMOUNT BENTONITE: Pure Hold Holeplug
BOREHOLE IDENTIFICATION: SSOSB-MP BOREHOLE DIAMETER: 14" WELL IDENTIFICATION: SSOSB-MP	TYPE OF CEMENT: AMOUNT CEMENT USED: GROUT MATERIALS USED:
WELL CONSTRUCTION START DATE: 11/13/97 WELL CONSTRUCTION COMPLETE DATE: 11/13/97	DIMENSIONS OF SECURITY BOX:
SCREEN MATERIAL: PVC SCLIDUL 40 SCREEN DIAMETER: 3/4" STRATUM-SCREENED INTERVAL (FT): 18-19	TYPE OF WELL CAP:
CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: 3/4"	COMMENTS:
SPECIAL CONDITIONS WELL CAP (describe and draw)	GROUND SURFACE (REFERENCE POINT) SECURITY BOX
	LEGEND GROUT BENTONITE SEAL FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL 13.5 / DEPTH TO TOP OF FILTER PACK 17.5 / DEPTH TO TOP OF SCREEN 18
SCREEN LENGTH SAND CELLAR LENGTH	END CAP DEPTH TO BASE OF WELL
	NOT TO SCALE
INSTALLED BY: American Environmental INSTAL	LATION OBSERVED BY: Metcalf; Tody Inc(B.Cravez)
DISCREPANCIES:	·

GSOEB-MP5D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM TYPE OF FILTER PACK: global sand GRADIATION: 45 FIELD REPRESENTATIVE: B. Chavez GRADIATION: DRILLING CONTRACTOR: American Environmental AMOUNT OF FILTER PACK USED: TYPE OF BENTONITE: Pure Gold/ Holephia CMETS DRILLING TECHNIQUE: AMOUNT BENTONITE USED: AUGER SIZE AND TYPE: 9'4" ID HSA BOREHOLE IDENTIFICATION: SSOSB-MP TYPE OF CEMENT: BOREHOLE DIAMETER: AMOUNT CEMENT USED: WELL IDENTIFICATION: GROUT MATERIALS USED: WELL CONSTRUCTION START DATE: 11 13/97 WELL CONSTRUCTION COMPLETE DATE: 1113197 DIMENSIONS OF SECURITY BOX: SCREEN MATERIAL: PVC Schidule 40 TYPE OF WELL CAP: _ SCREEN DIAMETER: 3/4" TYPE OF END CAP: STRATUM-SCREENED INTERVAL (FT): 24-25 COMMENTS: CASING MATERIAL: PVC Schidule 40 CASING DIAMETER: GROUND SURFACE (REFERENCE POINT) SPECIAL CONDITIONS SECURITY BOX (describe and draw) LEGEND BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF SCREEN SCREEN LENGTH SAND CELLAR DEPTH TO BASE OF WELL LENGTH BOREHOLE DEPTH NOT TO SCALE INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf; Fally Inc (B. Chavez

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DISCREPANCIES:

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			Name		t Wel	7	Project Num	10ter 746	LTCCOD	E (TRPIMS)		Site	ID.	08B	LPRCODE		
	Drilling Company Driller American Environments Ron Hathur				Ground Ele	vation		Tot	d Dri	lied Depth	551						
· 144 · · · · · · · · · · · · · · · · ·	Dri	lling	Equip LE	ment		Drilling N		Borehole Diamet		Drilling Started				e Total Depth R	eached 45	15.5'	
	_		Sampl						Water Leve			Fig	.al				
	ļ		lamm	er					Hydrogeold	gis havez		_		by/Date			
	Lox		Desc	ription	(include s	Driving V sketch in fie	id logbook)	Drop	1 10-0			1					
ha e ese la lace Succession de la	Depth	Interval	Recovery	Blow Counts	10 To 10 To	(include lith notation, n	ology, grain	Description size, sorting, anguedding, plasticity, applicable)	larity, Munsell density, consiste	olor name &	USCS Symbol	Lithology	Water Content	(include all sa	Remarks mple types & oor measureme	lepth, odor,	Toward London Co. And Hamman Long Co. St. And St. Co. St.
					poer	w Oil	adid,	Isolderse vands	ry: 51.	plands -	77		M	Ç			
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SSOBB-VEI/MPG

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B.Chave2	TYPE OF FILTER PACK: global Sand
DRILLING CONTRACTOR: American Environment	GRADIATION: 45 O AMOUNT OF FILTER PACK USED: 12
DRILLING TECHNIQUE: CME75 AUGER SIZE AND TYPE: 94" ID HSA	TYPE OF BENTONITE: Pure Gold Chips AMOUNT BENTONITE USED: 18
BOREHOLE IDENTIFICATION: SSOBB-MP6/VE BOREHOLE DIAMETER: WELL IDENTIFICATION: SSOBB-MP6/VE1	AMOUNT CEMENT USED:
WELL CONSTRUCTION START DATE: 111197 WELL CONSTRUCTION COMPLETE DATE: 11197	DIMENSIONS OF SECURITY CASING:
SCREEN MATERIAL: PIC Schedule 40 SCREEN DIAMETER:	TYPE OF WELL CAP: TYPE OF END CAP:
CASING MATERIAL: NC Scheduk 40 CASING DIAMETER:	COMMENTS:
SPECIAL CONDITIONS	SECRETAL CASING
(describe and draw)	CASING LENGTH ABOVE GROUND SURFACE DIMENTION OF CONCRETE PAD
	GROUND SURFACE (REFERENCE POINT)
	LEGEND :
	GROUT BENTONITE SEAL
	FILTER PACK
	DEPTH TO TOP OF BENTONITE SEAL
	DEPTH TO TOP OF FILTER PACK 41/2
SCREEN LENGTH	DEPTH TO TOP OF SCREEN 5'
	END CAP
SAND CELLAR LENGTH	BOREHOLE DEPTH 15.5'
INSTALLED BY: American Environmenta Instali	NOT TO SCALE ATION ORSERVED BY: Metanke Ell. Took & Change &
DISCREPANCIES:	

APPENDIX B PILOT TEST DATA AND ANALYSES FOR SITE SS-06

Sparge Off Cycle 2 ء 2222 :0 (MIM.) Sparge On Cycle 32 32 32 34 33 33 32 32 33 33 33 33 33 33 33 33 SF6 Flow (µ/min) 150 150 150 150 150 150 150 155 (uiu/n/) 150 150 150 150 150 150 150 147 Wolf muilsH 90 102 101 104 107 110 120 120 112 2 115 18 108 8 107 (T°) qmaT 15.40 15.40 15.50 0.0 14 15.2 15.2 15.20 15.20 15.20 15.25 15.30 15.40 15.20 15.80 БрагgеОппюм касе (tsd) 8.5 Sparge Air Pressure 1.6 5. 1.7 1.6 8. 1.5 1.5 1.6 1.6 1.7 1.7 1.8 Sparge Air % He (nudd) 0 0 0 0 0 0 0 0 0 0 0 0 0 000-000-Fiant Discharge FID 2.2 %CH¢ Final Discharge 1.3 Final Discharge 17.2 READINGS 70 % Final Discharge (inches H2O) 2.50 2.45 2.52 2.21 5.60 5.80 5.70 5.70 5.80 5.80 1.70 1.70 1.40 2.27 2.46 Роп 5 Ргезѕиге 335 189 112 191 231 149 479 479 4 4 4 0 0 109 171 267 SYSTEM Port 5 PID (ppmv) 4. Port 5 %CH4 AS/SVE 4 .. Port 5 % CO2 18.5 17.2 Port 5 % O2 SS06, 13.80 14.10 13.90 13.90 13.80 6.10 6.10 5.20 5.20 (OZH ni) 3.60 5.70 9.00 RTSMITH AFB PILOT TESTING SITE Роп 4 Ргеѕѕиге | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,00 305 281 330 330 330 330 330 330 337 565 810 Port 4 PID (ppmv) 17.2 22.0 16.5 13.8 14.3 0.0 7.1 5.9 6.1 0.1 2.3 Port 4 %CH4 0.0 0.9 0.3 0.3 3.0 4 4 0.0 9.4 4. 1.3 ₩ Pon 4 % CO2 1.3 14.3 18.9 19.2 19.5 19.6 19.9 20.2 13.8 18.4 17.2 18.7 8.3 2O % 4 πoq ₹ 0.79 0.79 0.78 0.68 0.31 0.25 0.29 0.28 0.22 0.32 0.32 0.15 0.54 0.51 Port 4 Extracted % 14.10 14.30 14.20 14.20 14.20 14.10 6.20 5.30 5.60 Port 3 Pressure (OSH ni) 5.85 6.14 90.9 5.80 6.03 20 12 8 2 2 2 2 75 75 22 (O2H ni) 17.9 17.0 12.5 34.3 33.1 33.1 34.2 32.6 32.6 18.4 18.8 17.7 18.2 17.7 17.0 17.1 17.6 Роп 2 Уасиит 156.00 154.00 153.00 155.00 155.00 156.00 95.00 95.00 99.00 95.00 24.00 96.00 95.00 90.00 94.00 (setm) SVE Flow Rate 730 290 275 (vmqq) QIQ I noq 19.8 17.7 0.0 6.8 Port 1 %CH4 7 0.0 Por 1 % CO2 4 4 6 8 8 9 6 4 9 20.6 18.9 16.6 19.4 8.3 Port 1 % O2 22.0 21.9 21.8 22.6 21.8 14.2 14.5 13.5 (O2H ri) 13.0 13.5 14.0 13.8 13.3 12.2 13.4 13.0 13.3 Роп 1 Уасиит 22 22 52 52 52 52 23 InletTemp (°F) 11.5 (OZH 19.1 19.1 19.0 19.0 11.9 11.3 9.11 11.5 11.6 11.2 11.2 11.7 Ξ MP6 Vacuum (in 99.05 21:10 13:20 13:20 13:20 13:20 13:20 13:20 13:20 13:30 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113/97 | 1113

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR DATA FOR WELL MP1A

Test Location SS06 Vapor Monitoring Well MP1A

	Vacuum		1	<u> </u>			
Time	(inches H20)	%02	%C02	%CH4	% Helium	PID (ppm)	Operator
11/11/97 18:22		13	5.3	0.2	0.0	161	JP
11/12/97 19:51		20.3	0.0	0.2	0.0	2.45	JP
11/13/97 9:32		20.0	0.4	0		240*	FA
11/13/97 9:47		20.2	0.4	6		32.4	JP
11/15/97 15:00	1.59	20	0	0.05		40.3	FA
11/17/97 11:22	1.5	18	0	0.1		88	FA
11/18/97 11:23	1.21	20.1	0	0		19.2	ASR
11/19/97 14:27	1.52	20.2	0	0		7.7	SJ
11/20/97 14:02	1.4	20	0	0.1	0	37.3	SJ
11/21/97 12:20	1.8	19.8	0	0	0	37.7	SJ
11/22/97 12:30	1.62	20.6	0.2	0	0	21.7	SJ
11/23/97 15:40	1.67	20.6	0.2	0	0	434	SJ
11/24/97 11:51	-0.14	19.4	0.1	38.2	1.8	435	JP
11/24/97 16:04	-0.16	19.5	0	55.3	2	407	JP
11/24/97 21:45		19.6	0	45	2	418	ASR
11/26/97 11:00		19.6	0.1	37.5	0.9	623	FA
11/28/97 12:50		18.4	0.3	12.7	0.52	2308*	FA
11/30/97 16:30		18.3	0.4	1.8	0.28	272	FA
12/2/97 11:03		18.2	0.5	0.7	0.2	217.6	SJ
12/4/97 10:32		17.7	0.7	0.1	0.15	114.5	SJ
12/9/97 16:25		17.6	0.7	0	0	35	ASR
12/13/97 10:42		16.9	1.1	0	0	13.7	SJ

^{*} Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR DATA FOR WELL MP1B

Test Location SS06 Vapor Monitoring Well MP1B

	Vacuum				T T		
Time	(inches H20)	%02	%C02	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:11	0	0.2	14.9	55	0	143	JP
11/12/97 19:36	6.2	19.8	0.7	0.7	0	454*	JP
11/13/97 9:58		15.1	3.9	0.7		270*	JP
11/15/97 15:05	3.45	20	0	0		40.3	FA
11/17/97 11:48		17.9	0	0		40.8	FA
11/18/97 11:37	2.71	20	0	0		15.1	ASR
11/19/97 14:41	3	20.1	0	0		7.7	SJ
11/20/97 15:59	2.93	20.4	0	0	0	13.4	SJ
11/21/97 13:30	3.12	20.3	0	0	0	35	SJ
11/22/97 13:40	3.25	20	0.2	0	0	12.7	SJ
11/23/97 17:58	3.23	19.9	0.2	0	0	204.8*	SJ
11/24/97 12:02	-0.38	19.6	0	33.8	1.9	465	JP
11/24/97 16:21	-0.38	19.7	0	45.1	2	444	JP
11/24/97 21:58		19.7	0	39.5	2	425	ASR
11/25/97 16:48		18.7	0.6	27.8	1.4	627	SJ
11/26/97 11:16		17.2	0.8	17.8	1.3	645	FA
11/28/97 13:18		16	1.3	6.1	0.88	1951*	FA
11/30/97 16:45		15.4	1.8	0.6	0.44	201	FA
12/2/97 11:17		14	2.5	0.6	0.26	180.5	SJ
12/4/97 10:53		11.7	3.4	1.6	0.18	284	SJ
12/9/97 16:40		9.3	4.7	1.6	0	216.2	ASR
12/13/97 12:49		6	6.3	1.4	0	302	SJ

^{*} Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR DATA FOR WELL MP1C

Test Location SS06 Vapor Monitoring Well MP1C

	Vacuum					OVM	
Time	(inches H20)	%02	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:33		0	15.6	150	0	79.4	JP
11/12/97 19:28	7.3	4.7	13.4	29.8	0	1000	JP
11/13/97 10:09	6.78	4.5	12.3	71.7		142	FA
11/15/97 15:10	4.11	20	0	0		42.2	FA
11/17/97 11:55	4.05	17.9	0.2	0.5		387	FA
11/18/97 11:57	3.3	20.2	0.1	0.3		391	ASR
11/19/97 17:35		14.1	7.2	150		85.5	SJ
11/20/97 18:24	3.47	20.2	0	0	0	5.9	JP
11/20/97 19:23	3.54	16	3.7	48.3	0.27	194	SJ
11/21/97 16:18	3.59	21.2	0	0	0	11.9	SJ
11/22/97 16:16	3.51	18.9	1.8	7.6	0	602	SJ
11/23/97 14:09	3.75	13.9	7.6	72.7	0.21	164	SJ
11/24/97 12:24	-0.47	19.4	0	11.4	1.9	552	JP
11/24/97 16:37	-0.54	19.9	0	12.3	2	526	JP
11/24/97 22:10	-0.54	19.5	0	29.7	1.9	439	ASR
11/25/97 17:12		19.1	0.5	55.6	1.5	477	SJ
11/26/97 11:20		17.6	0.5	66.5	1.6	445	SJ
11/28/97 14:00		15	1.4	59.8	1.1	1673*	FA
11/30/97 17:05		12.8	2.4	46.5	0.52	411	FA
12/2/97 11:53		11	3.6	51.8	0.17	399	SJ
12/4/97 11:11		6.9	4.7	63.3	0.06	427	SJ
12/9/97 20:00		3.4	7.2	57.4	0	403	FA
12/13/97 14:20		1.7	9.6	49.4	0	853	SJ

^{*} Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP2A

Test Location SS06 Vapor Monitoring Well MP2A

	Vacuum			1			
Time	(inches H20)	% O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:44		11.5	6.1	2.5	0	725	JP
11/12/97 20:18		20.1	0.3	2.7	0	2449	JP
11/13/97 10:20		17.9	2.1	2.8		896	FA
11/15/97 15:17	0.69	20	0	0		57.1	FA
11/17/97 12:10	0.69	18.4	0	0		83	FA
11/18/97 12:26	0.63	21	0	0		55.6	ASR
11/19/97 14:55	0.68	20.1	0	0		10.2	SJ
11/20/97 14:36	0.66	20.4	0	0	0	24.6	SJ
11/21/97 12:10	0.83	19.7	0	0	0	202.7	SJ
11/22/97 12:48	0.91	20.1	0.2	0	0	18.7	SJ
11/23/97 16:51	0.72 ′	20.2	0.3	0	0	159.9	SJ
11/24/97 12:36	-0.08	18.1	0.3	5	0	318	SJ
11/24/97 16:46	-0.07	17.2	1.9	21.4	0.08	391	JP
11/24/97 22:20		18	1.8	21.4	0.52	418	ASR
11/25/97 17:25		19.9	1.1	0.5	0.44	377	SJ
11/26/97 11:35		18.9	0.7	0.7	0.42	275	FA
11/28/97 15:20		18.8	0.5	0.1	0.35	227	FA
11/30/97 17:25		18.8	0.4	0.4	0.28	200	FA
12/2/97 12:11		18	0.7	0.3	0.17	146	SJ
12/4/97 11:29		17	1	0.2	0.1	152	SJ
12/9/97 17:00		16.6	1.2	0	0	20	ASR
12/13/97 11:20		16	1.8	0	0	7	SJ

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP2B

Test Location SS06 Vapor Monitoring Well MP2B

	Vacuum		Ī				
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:53		3.4	11.8	16.4	0	431	JP
11/12/97 20:09		17.9	2.2	3.2	0	1950	JP
11/13/97 10:25		14.2	4.6	0.3		304	FA
11/15/97 15:25	0.86	20	0	0		57.1	FA
11/17/97 12:15	0.89	18.7	0	0		74	FA
11/18/97 12:34	0.78	21	0	0		47	ASR
11/19/97 17:03	0.75	20.3	0	0		8.3	SJ
11/20/97 16:23	0.84	20.5	0	0	0	11.9	SJ
11/21/97 13:47	0.99	20.6	0	0	0	30.4	SJ
11/22/97 14:11	0.71	19.6	0.4	0	0	11.1	SJ
11/23/97 18:15	0.86	20.3	0.2	0	0	232	SJ
11/24/97 12:56	-0.09	16.4	1.7	16.5	0	3.26	SJ
11/24/97 17:03		16.2	3	39.4	0.33	318	SJ
11/24/97 22:30		17.4	2.5	31.5	0.96	346	ASR
11/25/97 17:45		18.1	2.6	0.4	0.54	245	SJ
11/26/97 11:45		16.7	2.2	0.5	0.46	210	FA
11/28/97 15:50		17.1	1.8	0	0.33	187	FA
11/30/97 17:45		16.5	1.9	0.1	0.16	103	FA
12/2/97 12:50		15.6	2.3	0	0	47.2	SJ
12/4/97 11:55		13.6	3.2	0	0	93.3	SJ
12/9/97 18:55		12.8	3.7	0	0	48.2	FA
12/13/97 13:04		11.2	5.1	0	0	29.3	SJ

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP2C

Test Location SS06 Vapor Monitoring Well MP2C

	Vacuum						
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:57		0	15.2	150	0	80.7	JP
11/12/97 20:00		1.5	15.2	132.7	0	205	JP
11/13/97 10:30		3.3	12.7	129		133	FA
11/15/97 15:30	1.56	14.4	5.1	15.7		400	FA
11/17/97 12:20	1.52	15.2	3.5	16.6		997	FA
11/18/97 15:59	1.56	17.3	3.5	20.6		938	ASR
11/19/97 18:43	1.24	12	7.7	82.3	0	185.5	JP
11/20/97 19:01	1.37	12.1	7.7	70.8	0	250	SJ
11/21/97 16:37	1.77	21	0	0	0	7.3	SJ
11/22/97 16:28	1.41	12.8	8.9	47.7	0	515	SJ
11/23/97 14:19	1.58	19.9	0.3	0	0	309	SJ
11/24/97 13:06	-0.23	13.8	6	148.3	0.66	181	SJ
11/24/97 17:16	-0.19	17.8	3.3	150	1.1	170	SJ
11/24/97 22:45		18.1	2.4	150	1.5	172	ASR
11/25/97 18:03		16.7	4.9	131.2	0.85	255	SJ
11/26/97 11:55		14	4.5	132.5	0.62	255	FA
11/28/97 16:10		10.6	5.6	97.5	0.11	1001*	FA
11/30/97 18:00		5.7	7.4	97.5	0	276	FA
12/2/97 14:25		4.1	8.6	88.7	0	261	SJ
12/4/97 12:09		1.6	10.3	102.8	0	289	SJ
12/9/97 19:50		0	12	93.8	0	301	FA
12/13/97 14:37	<u> </u>	0	13.3	100.5	0	519	SJ

^{*} Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP3A

Test Location SS06 Vapor Monitoring Well MP3A

	Vacuum			T		T	ı
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:05	(=====)	16.6	1.9	6.1	0	745	JP
11/12/97 20:52		20.5	0	0.4	 	395	JP
11/13/97 10:45		19.9	0.2	2.4		818	FA
11/15/97 17:15	0.62	19.4	0	0		703	FA
11/17/97 12:30	0.59	18.8	0	0.1		208	FA
11/18/97 14:05	0.9	21.2	0	0		51.6	JP
11/19/97 15:14	0.83	20.1	0	0		16	SJ
11/20/97 14:48	0.7	20.2	0	0	0	28.3	SJ
11/21/97 12:35	0.75	19.7	0	0	0	33.1	SJ
11/22/97 12:56	0.81	19.9	0.3	0	0	17.2	SJ
11/23/97 17:11	0.98	20.1	0.3	0	0	184.6	SJ
11/24/97 13:30	-0.29	19.1	0.2	30.2	0.35	491	SJ
11/24/97 17:37	-0.24	19.8	0.1	26.6	1.9	449	SJ
11/24/97 22:53		19.5	0.2	45.4	1.9	373	JP
11/25/97 18:20		20.8	0.3	19.4	0.75	518	SJ
11/26/97 12:10		19	0.2	28.5	0.67	470	FA
11/28/97 17:15		17.8	0.7	4.3	0.72	1860*	FA
11/30/97 18:15		18.6	0.4	1.6	0.47	315	FA
12/2/97 14:39		18.5	0.4	0.6	0.79	231	SJ
12/4/97 12:48		16.3	1.2	3.2	0	371	SJ
12/9/97 17:17		16.8	1	0.1	0	84.5	ASR
12/13/97 11:48		16.5	1.6	0.3	0	166.5	SJ

^{*} Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP3B

Test Location SS06 Vapor Monitoring Well MP3B

	Vacuum						
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:12		1.3	13.6	off scale	0	86.7	JP
11/11/97 20:45		20.2	0	0.6		572	JP
11/12/97 10:48		13.6	2.7	5.6		206	FA
11/14/97 17:35	1.15	19.3	0	0		870	FA
11/15/97 12:45	1.15	18.8	0	0		96.3	FA
11/17/97 15:31	1.4	21.2	0	0		21.2	ASR
11/18/97 16:39	0.85	20	0	0		9.6	SJ
11/19/97 16:37	0.94	20.4	0	0	0	10.4	SJ
11/20/97 14:38	0.86	21	0	0	0	22.1	SJ
11/21/97 14:29	1.17	19.7	0.3	0	0	14.2	SJ
11/22/97 18:27	0.96	20.4	0.2	0	0	197	SJ
11/23/97 13:44	-0.5	19.3	0	26.1	0.17	493	JP
11/24/97 17:59	-0.67	19.9	0	25.9	2	453	SJ
11/24/97 23:02		19.5	0.1	41.5	1.9	370	JP
11/24/97 18:35		19.9	0.6	56	1.1	407	SJ
11/25/97 12:25		17.8	0.8	68.7	1.3	364	FA
11/26/97 17:40		18	0.7	3.6	0.62	1808*	FA
11/28/97 18:30		16.4	1.6	9.4	0.49	459	FA
11/30/97 14:49		15.3	1.4	6.5	0.47	407	SJ
12/2/97 13:18		10.6	3.9	22.1	0.11	404	SJ
12/4/97 18:40		10	4.7	9.9	0	360	FA
12/9/97 13:21		4	7.6	20.5	0	747	SJ

^{*} Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP3C

Test Location SS06 Vapor Monitoring Well MP3C

	Vacuum (inches	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
Time	H2O)			150	0	70.1	JP
11/11/97 19:16		0	15.1		0	461	JP
11/12/97 20:29		20	0.2	0.4			
11/13/97 10:58		6.1	7.7	56.6		91	FA
11/15/97 17:20	1.66	19.3	0	0		60	FA
11/17/97 13:00	1.68	18.8	0	0		67.9	FA
11/18/97 16:36	1.8	21	0	0		88	ASR
11/19/97 17:57	0.89	19.1	1.9	150		160	JP
11/20/97 19:50	1	20	0.2	71.4	1.2	338	SJ
11/21/97 16:55	1.4	20.9	0	0	0	8.2	SJ
11/22/97 16:40	1.37	20	0.3	13.2	1.5	902	SJ
11/23/97 14:38	1.26	19.9	0.3	0	0	655	SJ
11/24/97 14:08	-0.87	19.7	0	24.2	1.6	517	JP
11/24/97 18:36	-0.72	19.7	0	21.6	2.1	486	SJ
11/24/97 23:13		19.4	0	36	1.9	397	JP
11/25/97 19:07		19.9	0.4	64.3	1.6	377	SJ
11/26/97 14:00		18.4	0.4	72.4	1.7	346	SJ
11/28/97 18:00		15.7	1.3	65.4	1	1192*	FA
11/30/97 18:55		13.6	2.2	72.2	0.86	335	FA
12/2/97 15:07		12.4	2.9	69.1	0.4	293	SJ
12/4/97 13:31		9.5	4.3	92.5	0.1	294	SJ
12/9/97 19:40		2.9	7.3	94.9	0	301	FA
12/13/97 14:53		0.7	10	98.1	0	578	SJ

^{*} Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP4A

Test Location SS06 Vapor Monitoring Well MP4A

	Vacuum					1	
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:22		12.8	5.4	14.1	0	997	JP
11/12/97 21:17		20.1	0	4		395	JP
11/13/97 11:07		19.4	0.4	1.2		576	FA
11/15/97 17:30	0.21	19.3	0	0		54.4	FA
11/17/97 13:19	0.19	19	0	0		37	FA
11/18/97 14:27	0.22	21.2	0	0		24.2	ASR
11/19/97 15:31	0.15	20.1	0	0		10.9	SJ
11/20/97 15:23	0.21	20.3	0	0	0	20.8	SJ
11/21/97 12:53	0.11	19.4	0	0	0	13.8	SJ
11/22/97 13:12	0.22	20.2	0.2	0	0	20.1	SJ
11/23/97 17:22	0.45	19.9	0.3	0	0	194.1	SJ
11/24/97 14:28	-0.07	18.9	0.5	52.5	0.85	331	JP
11/24/97 19:00	-0.07	19.3	0.8	54.4	1.5	330	JP
11/24/97 23:21		18.9	0.5	57.2	0.97	309	JP
11/25/97 21:38		19.8	0.3	4.8	0.52	650	SJ
11/26/97 14:20		19.8	0	1	0.33	301	SJ
11/28/97 18:20		19.6	0	0.4	0.27	45	FA
11/30/97 19:10		19.8	0	0.8	0.2	30	FA
12/2/97 15:20		19.1	0.3	0.6	0.2	197	SJ
12/4/97 13:45		18.2	0.5	0.4	0.1	173	SJ
12/9/97 17:35		18.2	0.6	0	0.01	19.3	ASR
12/13/97 12:17		17.5	1	0	0.11	29.3	SJ

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP4B

Test Location SS06 Vapor Monitoring Well MP4B

	Vacuum						
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:26		3.5	11.3	41.4	0	595	JP
11/12/97 21:11		20	0	0.7		619	JP
11/13/97 11:10		12.6	4.6	0.9		415	FA
11/15/97 17:45	0.5	19.3	0	0		500	FA
11/17/97 13:38	0.5	19	0	0		36.3	FA
11/18/97 15:19	0.49	21.2	0	0		13.1	ASR
11/19/97 16:27	0.26	20.1	0	0		8.3	SJ
11/20/97 16:58	0.37	20.4	0	0	0	9.7	SJ
11/21/97 15:03	0.43	21	0	0	0	8.2	SJ
11/22/97 14:43	0.46	19.9	0.2	0	0	14.8	SJ
11/23/97 18:37	0.41	20.5	0.2	0	0	18	SJ
11/24/97 14:43	-0.16	19.3	0.7	104.2	1.2	287	JP
11/24/97 19:20	-0.13	19.5	0.5	90.6	1.9	279	JР
11/24/97 23:29		19	0.8	84.2	1.7	282	JP
11/25/97 21:49		17.6	2.1	13.6	0.89	650	SJ
11/26/97 14:28		17.1	1.6	2.4	0.59	335	SJ
11/28/97 18:35		18	1	0.3	0.29	99	FA
11/30/97 19:35		17.7	1.3	0.3	0.24	30	FA
12/2/97 15:47		16.4	2	0.2	0.11	89.8	SJ
12/4/97 13:56		13.8	3.4	0.4	0	173	SJ
12/9/97 18:25		13.4	3.4	0	0	43.1	FA
12/13/97 13:37		12.6	4	0.2	0	128.3	SJ

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP4C

Test Location SS06 Vapor Monitoring Well MP4C

	Vacuum			T			
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:31		0	14.6	150	0	66.7	JP
11/12/97 21:05		16.6	3.2	1		592	JP
11/13/97 11:15		4.5	10.2	68		77	FA
11/15/97 17:40	0.96	19.2	0.1	0		60.2	FA
11/17/97 13:28	0.96	18.6	0.4	0		78.7	FA
11/18/97 16:58	0.9	20.9	0.4	0.1		100.2	ASR
11/19/97 18:07	0.51	15.6	6.9	150	2.5	75.2	JP
11/20/97 20:12	0.62	18.2	2	30.5	0.51	189.5	SJ
11/21/97 17:11	0.97	21	0	0		3.6	SJ
11/22/97 17:09	0.8	18.2	2.2	13.1	0.23	318	SJ
11/23/97 15:06	0.61	20.6	0.2	0	0.07	296	SJ
11/24/97 15:01	-0.41	19.3	0.5	110.7	1.5	293	JP
11/24/97 19:30	-0.39	19.5	0.5	88.9	2	289	JP
11/24/97 23:38					1.9	230	JP
11/25/97 22:00		18.3	1.8	136.3	1.4	391	SJ
11/26/97 14:46		16.9	1.7	122.3	1.2	269	SJ
11/28/97 18:55		13.5	3.3	68	0.56	480	FA
11/30/97 19:45		10.5	5.1	79.6	0.29	218	FA
12/2/97 15:58		6.1	7	100.1	0	179.7	SJ
12/4/97 14:05		2.9	9	124.1	0	192	SJ
12/9/97 19:25		0.7	11.2	107.9	0	188	FA
12/13/97 15:32		1.1	12.4	100.5	0	324	SJ

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP5A

Test Location SS06 Vapor Monitoring Well MP5A

	Vacuum		1		1		**************************************
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:36	(menes 1120)	12.5	5.1	17.6	0	792	JP
11/11/97 13:30		20	0	0.3	-	336	JP
11/13/97 11:25		16.5	2.2	1.6		585	FA
11/15/97 17:57	0.05	19.5	0	0		41.5	FA
11/17/97 14:00	0.05	19.5	0	0	<u> </u>	21.2	FA
		21.2	0	0		15.1	ASR
11/18/97 14:45	0.14		0	0			
11/19/97 15:41	0.03	20.1				9.6	SJ
11/20/97 15:45	0.03	20.3	0	0	0	15.6	SJ
11/21/97 13:10	0.02	19.6	0	0	0	18.4	SJ
11/22/97 13:29	0.04	20.1	0.2	0	0	14.3	SJ
11/23/97 17:33	0.25	19.8	0.3	0	0	192.7	SJ
11/24/97 15:16	-0.02	17.1	1.8	43	0.52	272	JP
11/24/97 19:43	-0.02	17.4	2.3	70.1	0.85	246	JP
11/24/97 23:45					0.25	229	JP
11/25/97 22:16		19.4	0.9	2.4	0.04	613	SJ
11/26/97 14:59		20.2	0.1	1	0.09	289	SJ
11/28/97 19:05		19.8	0	2.6	0.11	43.4	FA
11/30/97 20:00		20.2	0	0.8	0.07	35	FA
12/2/97 16:09		19.1	0.4	0.6	0.4	161	SJ
12/4/97 14:21		16.8	1.3	0.4	0.27	145	SJ
12/9/97 17:53		19.7	0.2	0	0.03	14.3	ASR
12/13/97 12:35		16.3	1.7	0	0	18.1	SJ

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP5B

Test Location SS06 Vapor Monitoring Well MP5B

	Vacuum			1		T T	
Time	(inches H2O)	% O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 17:42		0.5	12.6	145.4	0	121.9	JP
11/12/97 21:33		19.5	0.4	0.5		442	JP
11/13/97 11:28		10.2	3.8	8.8		304	FA
11/15/97 6:15	0.17	19.5	0	0		350	FA
11/17/97 14:10	0.18	18.9	0	0		12.5	FA
11/18/97 15:07	0.19	21.2	0	0		13.1	ASR
11/19/97 16:08	0.07	20	0	0		9.6	SJ
11/20/97 17:19	0.11	20.5	0	0	0	10.4	SJ
11/21/97 15:37	0.15	20.8	0	0	0	10.1	SJ
11/22/97 15:47	0.12	20.9	0.1	0	0	2.2	SJ
11/23/97 18:49	0.11	20.7	0.3	0	0	154	SJ
11/24/97 15:32	-0.08	16.1	3.5	63.9	0.67	208	JP
11/24/97 19:55	-0.08	17.8	3.2	92.7	1.1	200	JP
11/24/97 23:50				7-17	1	170	JP
11/25/97 22:36		16.1	4.1	12.8	0.38	477	SJ
11/26/97 15:13		18.5	1.5	0.6	0.24	204	SJ
11/28/97 19:20		18.2	1.3	0.2	0.19	12	FA
11/30/97 20:10		17.3	1.8	0.5	0.08	30	FA
12/2/97 16:20		10.4	5.3	0.8	0	135	SJ
12/4/97 14:34		5.5*	7.8*	2.1*	0*	209*	SJ
12/9/97 18:10		12.5	4.7	0.2	0	52.9	FA
12/13/97 14:04		10.5	6.5	0.5	0	130.2	SJ

^{*} Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP5C

Test Location SS06 Vapor Monitoring Well MP5C

	Vacuum						<u></u>
Time	(inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:47		0	13.3	150	0	77.1	JP
11/12/97 21:26		19.1	0.9	1.3		631	JP
11/13/97 11:33		4.7	9.5	114.6		108	FA
11/17/97 14:40	0.45	18.8	0	0		73.7	FA
11/18/97 17:36	0.43	21.1	0.1	0.1		104	ASR
11/19/97 18:21	0.22	17.7	2.2	17.3	0.98	77.1	JP
11/20/97 20:39	0.29	19.4	0.7	2.1	0.08	174	SJ
11/21/97 17:24	0.59	21.1	0	0	0	3.4	SJ
11/22/97 17:19	0.51	19.3	0.8	2.2	0	262	SJ
11/23/97 15:22	0.3	20.5	0.2	0	0	449	SJ
11/24/97 15:43	-0.23	18.2	2.4	150	1.2	131	JP
11/24/97 20:13	-0.23	18.8	1.6	150	1.6	129	JP
11/24/97 23:00					1.5		JP
11/25/97 22:55		16.4	4.9	146.5	0.91	243	SJ
11/26/97 15:23		14.3	4.5	121	0.73	181	SJ
11/28/97 19:35		10.6	6.4	105.8	0.26	193	FA
11/30/97 20:25		5.3	8.7	115.2	0	200	FA
12/2/97 16:30		3.1	10.8	146	0	117.9	SJ
12/4/97 14:47		0.9	12.4	150	0	126.3	SJ
12/9/97 19:10	-	0	13.2	141.3	0	131.7	FA
12/13/97 16:00		0.2	14.1	146	0	217	SJ

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP6

Test Location SS06 Vapor Monitoring Well MP6

	Vacuum	······································					
Time	(inches H2O)	% O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/24/97 21:30	-0.53	19.6	0	47.5	2	426	ASR
11/25/97 23:07		19.2	0.5	62.5	1.4	499	SJ
11/26/97 16:20		18.4	0.4	48	1	450	FA
11/28/97 19:55		17.2	0.8	14.6	0.59	480	FA
11/30/97 20:35		16.3	1.3	9.2	0.48	496	FA
12/2/97 16:45		15.2	1.9	9.8	0.24	411	SJ
12/9/97 20:15		11.2	3.5	11.5	0	475	FA
12/13/97 16:29		10.8	4.3	9	0	886	SJ

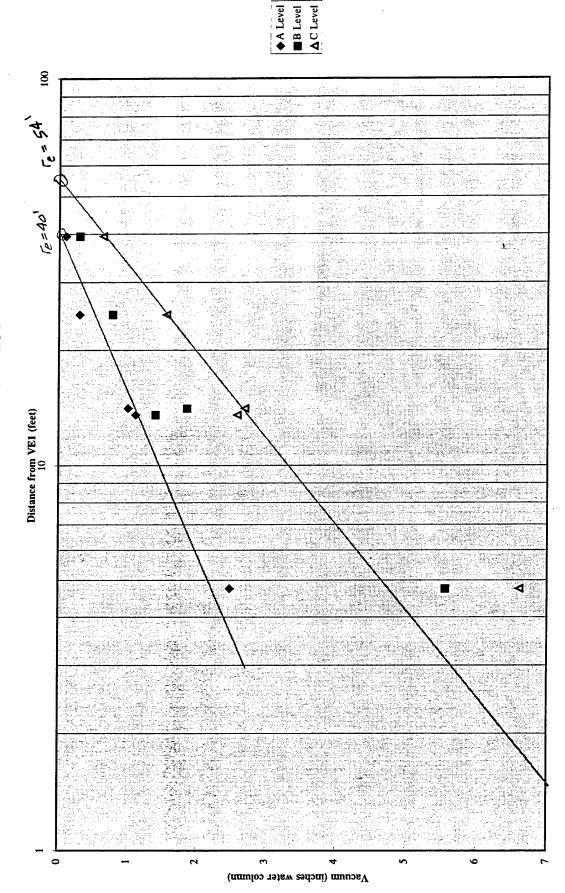
WURTSMITH PILOT TESTING SS06 VOC RESULTS FROM SUMMA CANNISTER SAMPLING

Sample Name:		SVE Sample Port 1		SVE Sample Port 1 Duplicate		Well MP6
Sample Date:		11/18/97		11/18/97		11/24/97
Sample Time:		13:27		18:15		20:30
Target Compounds	Units					
Benzene	ppb v/v	ND<10.0		1800	1	5400
Ethylbenzene	ppb v/v	970		2300		21000
m,p-Xylene	ppb v/v	2000		4700	Ī	46000
o-Xylene	ppb v/v	ND<10.0		ND<20.0		3200
4-Ethyl Toluene	ppb v/v	240		700		5100
1,3,5-Trimethylbenzene	ppb v/v	240		690		3400
1,2,4-Trimethylbenzene	ppb v/v	710		2300		8600
Tentatively Identified						
2,4-Dimethylpentane	ppb v/v	3400	NJ	8800	NJ	
2-Methylhexane	ppb v/v	9800	NJ	26000	NJ	200000
2-Methylpentane	ppb v/v	9700	NJ	27000	NJ	11000
3-Methylhexane	ppb v/v			42000	NJ	18000
3-Methylpentane	ppb v/v	6600	NJ	19000	NJ	8800
C6 Unsaturated Hydrocarbon	ppb v/v	16000	J	40000	J	
C7 Hydrocarbon	ppb v/v			3800	J	
C7 Hydrocarbon (2)	ppb v/v	18400	J			
C7 Hydrocarbon (3)	ppb v/v					44300
C7 Unsaturated Hydrocarbon	ppb v/v	4300	J			
C8 Hydrocarbon (3)	ppb v/v	14700	J	33400	J	41700
C8 Unsaturated Hydrocarbon	ppb v/v			6300	J	
Dimethyl cyclohexane isomer	ppb v/v			7100	J	7500
Dimethyl cyclopentane isomer	ppb v/v	3600				
Hexane	ppb v/v	7200	NJ	19000	NJ	
Methylcyclohexane (2)	ppb v/v	22000	NJ	50000	NJ	
Methylcyclopentane	ppb v/v					26000
Trimethyl cyclohexane isomer (2)	ppb v/v			6200		22000
Trimethyl cyclopentane isomer	ppb v/v			5000	J	
Trimethyl cyclopentane isomer (3)	ppb v/v	5800	J			
Total Volatiles (ppb v/v)		125660.0		306090.0		472000.0
Key:						
J = Estimated Value				· · · · · · · · · · · · · · · · · · ·		
N = Tentatively Identified Compoun-	d					

WURTSMITH AFB PILOT TESTING SITE SS06 STEADY STATE SOIL PERMEABILITY CALCULATIONS EFFECTIVE RADIUS METHOD

	n or b	n or b P _{atm}	ở		P _{atm} -P* P _{atm} -P	I Ic	I.	1 .	Air temp.	k _a	K.	Ka	K _w K _w	K
SS06eq1	(ft)	(psi)	(scfm)	(in. H ₂ O)	Œ		(ft)	(ft) (kg/m, sec)	ដុំ	(m ²)	(darcies) (cm/sec) (cm/sec) (ft/day)	(cm/sec)	(cm/sec)	(ft/dav)
MP1	22	14.26	154	18.03	4.88	4.75	54	4.75 54 1.78E-05	52	52 5.90E-11	59.8	3.31	0.05	0.05 142 84
MP2	22	14.26	154	18.03		1.7 13.55 54	22	1.78E-05	52	52 9 60E-11	07.7	5 38	80.0	22 28
MP3	22	14.26	154	18.03	Γ	1.85 14.09 54	2		52	52 8 57E-11	8 98	4 81	0.00	207.75
MP4	22	14.26	154	18.03		0.88 24.76 54	22	1	52	52 1.04E-10	105.8	2 86	000	25. 81
MP5	22	14.26	154	18.03		0.35 39.53 54	54		52	52 1.05E-10				0.09 252.81

WURTSMITH AFB PILOT TESTING SITE SS06 STEADY STATE DISTANCE PLOT



2/6/98

WURTSMITH AFB PILOT TESTING SITE SSO6 STEADY STATE SOIL PERMEABILITY CALCULATIONS TWO WELL METHOD

Observation Well Steady Stat	Э	Steady State	r ₁	r ₂	P _{atm} -P*	ð	n	, K	Ķ	M	K
	Vacuum at	Vacuum at						1	ŧ.	*	*
Pair	Well 1	Well 2	(ft)	£	(ft) (in. H ₂ O) (scfm)	(scfm)	(kg/m,sec)	(darcies)	(cm/sec)	(cm/sec)	(ft/dav)
MP1-MP2	4.88	1.7	4.75	13.55	18.0	154	1.78E-05	39.7	2.20	T	9.47F+01
MP1-MP3	4.88	1.85	4.75	14.09	18.0	154	1.78E-05	41.6	2.30		9.94E+01
MPI-MP4	4.88	0.88	4.75	24.76	18.0	154	1.78E-05	49.6	2.75	4.18E-02	1.19E+02
MP1-MP5	4.88	0.35	4.75	4.75 39.53	18.0	154	1.78E-05	-56.2	-3.11	-4.73E-02	-4.73E-02 -1.34E+02
MP2-MP3	1.7	1.85	13.55	13.55 14.09	18.0	154	1.78E-05	31.2	1.73	2.63E-02	7.46E+01
MP2-MP4	1.7	0.88	13.55	13.55 24.76	18.0	154	1.78E-05	88.0	4.87	7.41E-02	2.10E+02
MP2-MP5	1.7	0.35	13.55	13.55 39.53	18.0	154	1.78E-05	94.9	5.25	7.99E-02	2.27E+02
MP3-MP4	1.85	0.88	14.09	14.09 24.76	18.0	154	1.78E-05	9.69	3.85	5.86E-02	1.66E+02
MP3-MP5	1.85	0.35	14.09	14.09 39.53	18.0	154	1.78E-05	82.3	4.56	6.93E-02	1 97F+02
MP4-MP5	0.88	0.35	24.76	24.76 39.53	18.0	154	1.78E-05	105.5	5.84	8 89F-02	8 89F-02 2 57F+02
											101

WURTSMITH AFB PILOT TESTING SITE SS06 STEADY STATE SOIL PERMEABILITY CALCULATIONS PSEUDO STEADY STATE METHOD

							_		_		_	_
K	:	(ft/day)	0.83	06.0	1.04	1.18	-0.66	1.85	3.29	1.46	1.73	2.22
K.	:	(cm/sec)	2.93E-04	3.19E-04	3.67E-04	4.16E-04	-2.32E-04	6.54E-04	1.16E-03	5.17E-04	6.11E-04	7.85E-04
K,	ı	(cm/sec)	0.35	0.38	0.44	0.49	-0.27	0.78	1.38	0.61	0.73	0.93
k	1	(darcies)	6.28	6.84	7.86	8.91	-4.96	14.01	24.87	11.07	13.10	16.82
k		(m ²)	6.20E-12	6.75E-12	7.76E-12	8.80E-12	-4.90E-12	1.38E-11	2.46E-11	1.09E-11	1.29E-11	1.66E-11
1		(kg/m, sec)	1.78E-05	1.78E-05	1.78E-05	1.78E-05	1.78E-05	1.78E-05	1.78E-05	1.78E-05	1.78E-05	1.78E-05
Ŷ		(m³/min)	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36
r ₂		(m)	4.13	4.29	7.55	12.05	4.29	7.55	12.05	7.55	12.05	12.05
r1		(m)	1.45	1.45	1.45	1.45	4.13	4.13	4.13	4.29	4.29	7.55
Steady State	Vacuum at	Well 2	1.7	1.85	0.88	0.35	1.85	0.88	0.35	0.88	0.35	0.35
Observation Steady State Steady State	Vacuum at	Well 1	4.88	4.88	4.88	4.88	1.7	1.7	1.7	1.85	1.85	0.88
Observation	Well Pair		MP1-MP2	MP1-MP3	MP1-MP4	MP1-MP5	MP2-MP3	MP2-MP4	MP2-MP5	MP3-MP4	MP3-MP5	MP4-MP5

SITE SS06 TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES WURTSMITH AFB PILOT TESTING

				Vacuum	Time						
				(match	(match						
Well	W(u,r/B)	1 /u	r/B	point)	point)	r (ft)	ka (darcies)	Kw (cm/sec)	Kw (ft/dav)	E	K'w (cm/sec)
MP1A	-	-	0.62	2.20	0.028	5.11	33.50	2.82E-02	80	4 99	9 14F-03
MP1B	1	1	0.62	4.40	0.031	5.11	16.80	1.41E-02	40	0.27	4 57E-03
MP1C	1	1	0.87	7.60	0.042	5.11	9.69	8.17E-03	23.2	0.22	5.21E-03
MP1C(2)	1	-	0.62	2.80	0.027	5.11	15.49	1.31E-02	37.02	0.22	4 23E-03
MP3A	1	-	0.62	0.70	0.068	15.64	62.00	5.22E-02	148	0.24	1 81E-03
MP3B	1	-	0.87	1.50	0.110	15.64	28.90	2.44E-02	69 1	0 18	1 66E_03
MP3B(2)	1	-	0.62	1.00	0.089	15.64		3.66E-02	104	0.25	1.20E-03
MP3C	1	-	0.87	2.10	0.120	15.64		1.74E-02	49.4	0.20	1.20L-03
MP4A	-	_	0.36	0.17	0.041	24.27	255.00	2.15E-01	610	0.25	1.13E-03
MP4B	1	_	0.36	0.31	0.059	24.27	140.00	1.18E-01	334	0 10	5.71E-04
MP4C	1	1	0.62	0.80	0.130	24.27	70.00	5.90E-02	167	0.21	6 23E-05
MP5C	1	1	0.87	99.0	0.380	39.53	63.90	5.38E-02	153	0.22	5.73E-04

Air injection rate = 105.8 scfm

u = 1.8E-5 kg/m sec

Patm = 14.25 psi

vadose zone thickness = 22 feet

STEADY STATE SOIL PERMEABILITY CALCULATIONS EFFECTIVE RADIUS METHOD

Steady State Solution for One Dimensional Radial Flow

Soil Vapor Extraction Pilot Testing

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1

Assume:

Steady state conditions (u < 0.01)

One dimensional flow

Equation:

 $k_{a} = \underbrace{Q_{v} P^{*} u}_{\text{pi b}} \underbrace{\ln(r_{o}/r)}_{P^{2} - P_{atm}^{2}}$

where:

 $Q_v = \text{volumetric flow rate } (L^3/T)$

P* = absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)

 $P = absolute pressure at the observation well. (M/LT^2)$ $<math>P_{atm} = atmosphere pressure (absolute) dury test (M/LT^2)$

u = dynamic viscosity of soil gas (M/LT)

pi = 3.1415926

b = Aquifer thickness (L)

 r_e = radius of pressure influence (L)

r = Distance from VE1 to observation well (L)

 $k_a =$ apparent air permeability (L^2)

Input:

 $Q_v = 154.00 \text{ scfm} = 0.072674 \text{ m}^3/\text{sec}$ $P_{atm} = 29.05 \text{ in Hg} = 98335.26 \text{ kg/m sec}^2$ $P^*\text{diff} = 18.03 \text{ in H20} = 4489.348 \text{ kg/m sec}^2$

at 46F

u = 1.78E-05 kg/m sec b = 22 feet = 6.7056 m $r_e = 54$ feet = 16.4592 m r = 4.75 feet = 1.4478 m

P diff = $4.88 \text{ in H}_2\text{O}$ = $1215.087 \text{ kg/m sec}^2$

Calculated:

 $P^* = 93845.91 \text{ kg/m sec}^2$

 $P = 97120.17 \text{ kg/m sec}^2$

 $k_a = 5.9E-11 \text{ m}^2 = 59.79054 \text{ darcies}$

 $K_a = 3.310602 \text{ cm/sec}$

 $K_w = 5.04E-02 \text{ cm/sec} = 142.8429 \text{ ft/day}$

STEADY STATE SOIL PERMEABILITY CALCULATIONS TWO WELL STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow

Soil Vapor Extraction Pilot Testing

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume:

Steady state conditions (u < 0.01)

One dimensional flow

Equation:

$$k_a = Q_v P^* \mu \frac{\ln(r_2/r_1)}{\text{pi b}}$$

where:

 $Q_v =$ volumetric flow rate (L^3/T)

P* = absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)

dvnamic viscosity of soil gas (M/LT) **μ** =

pi = 3.1415926

b = Aquifer thickness (L)

r₁ = distance to observation well no. 1 (L)

 $r_2 =$ distance to observation well no. 2 (L) $P_1 =$

absolute pressure at well no. 1 (M/LT^2) $P_2 =$ absolute pressure at well no. 2 (M/LT^2)

 $k_a =$ apparent air permeability (L^2)

input:

$$Q_v = 154.00 \text{ scfm} = 0.072674 \text{ m}^3/\text{sec}$$
 $P_{atm} = 29.05 \text{ in Hg} = 98335.26 \text{ kg/m sec}^2$
 $P^*\text{diff} = 18.03 \text{ in H20} = 4489.348 \text{ kg/m sec}^2$
 $\mu = 1.78\text{E}-05 \text{ kg/m sec}$

at 46F

b = 22 feet 6.7056 m $r_1 =$ 4.75 feet = 1.4478 m **Γ**₂ = 13.55 feet = 4.13004 m

P₁ diff = 4.88 in H₂O = 1215.087 kg/m sec²

 $P_2 diff =$ 1.7 in H₂O 423.2885 kg/m sec²

Calculated:

 $P^* = 93845.91 \text{ kg/m sec}^2$

 $P_1 = 97120.17 \text{ kg/m sec}^2$ $P_2 = 97911.97 \text{ kg/m sec}^2$

 $k_a = 3.91E-11 \text{ m}^2$ 39.65263 darcies

 $K_a = 2.195566$ cm/sec

 $K_w = 3.34E-02 \text{ cm/sec}$ 94.7323 ft/day =

STEADY STATE SOIL PERMEABILITY CALCULATIONS PSEUDO STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow

Soil Vapor Extraction Pilot Testing

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2 MP1-MP2

Assume:

steady state conditions

One dimensional flow

Equation:

 $k_a =$ Q_v_µ $\ln(r_2/r_1)$

4 pi b

P2 - P1

where:

 $Q_v =$

volumetric flow rate (L^3/T)

 $\mu =$

dynamic viscosity of soil gas (M/LT)

pi =

3.1415926

b =

Aquifer thickness (L)

r₁ =

distance to observation well no. 1 (L)

 $r_2 =$

distance to observation well no. 2 (L)

 $P_1 =$

absolute pressure at well no. 1 (M/LT^2)

 $P_2 =$

absolute pressure at well no. 2 (M/LT^2)

=

=

=

=

k_a =

apparent air permeability (L^2)

Input:

 $Q_v =$ Patm = 154.00 scfm 29.05 in Hg

0.072674 m³/sec =

Temp (F) 52

1.78E-05 kg/m sec $\mu =$

b =

22 feet

6.7056 m

 $r_1 =$

4.75 feet

1.4478 m

 $r_2 =$

13.55 feet

4.13004 m

P₁ diff =

4.88 in H₂O

1215.087 kg/m sec²

98335.26 kg/m sec²

 $P_2 diff =$

1.7 in H₂O

423.2885 kg/m sec²

Calculated:

 $P_1 = 97120.17 \text{ kg/m sec2}$

 $P_2 = 97911.97 \text{ kg/m sec}^2$

 $k_a = 6.20E-12 \text{ m}^2$

6.279867 darcies

K_a = 0.347716 cm/sec

K_w = 5.29E-03 cm/sec

15.00294 ft/day

TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Transient Solution for One Dimensional Radial Flow Soil Vapor Extraction Pilot Testing MP1A

Assume:

One dimensional flow

Equations:

ka = QvuW(u/B) 4 pi b (P - Patm) na = 4 ka (P-Patm) t ur^2 u

 $B^2 = Krmm'$

where:

 $Qv = volumetric flow rate (L^3/T)$

P-Patm = guage vacuum obtained at match point (H2O")

u = dynamic viscosity of soil gas (M/LT)

pi = 3.1415926

b = vadose zone thickness (L)

(u, r/B) = leaky well function (obtained from type curve match point)

1/u = obtained from match point on type curve t = time obtained from type curve match point

Patm = absolute atmospheric pressure ka = apparent air permeability (L^2) $Kr = vadose zone conductivity (L^2/T)$

K' =surface seal conductivity (L^2/T)

r/B = type curve value

m = vadose zone thickness (L)

m' = surface seal thickness (L)

Input:

Qv =179.7 scfm 0.084803 m^3/sec (P-Patm)= 2.2 in H20 = 547.8 kg/m sec^2

1.80E-05 kg/m sec

b = 22 feet = 6.7056 m

W(u,r/B) =1 **u=** 1

r/B =

0.62 (from matching curve)

t = 0.28 minutes 16.8 seconds Patm = 14.25 psi = 98218.13 kg/msec^2

Γ= 5.11 feet = 1.55855 m m' =1 feet 0.305 m =

Calculated:

 $ka = 3.31E-11 \text{ m}^2$ = 33.49 darcies

Ka = 1.85 cm/sec

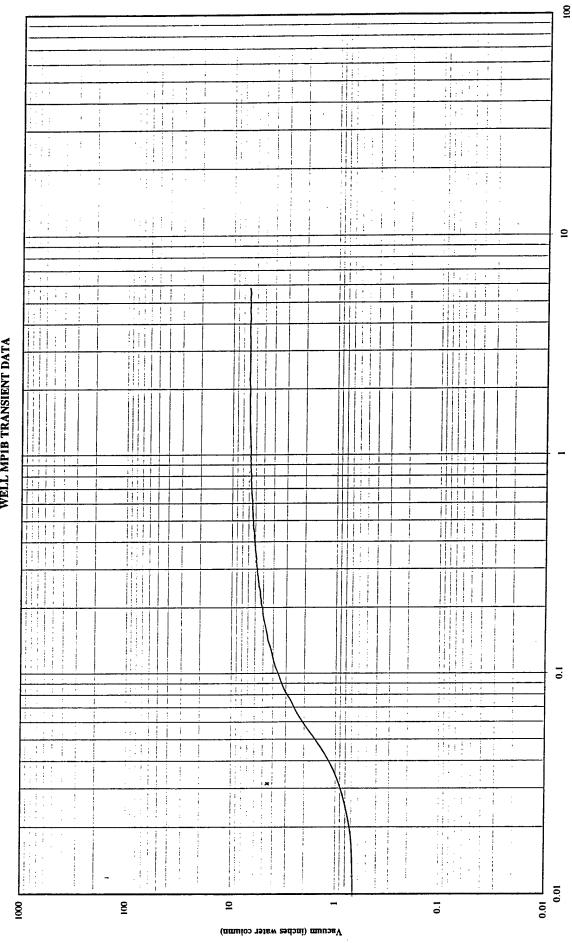
Kw = 2.82E-02 cm/sec = 80.02 ft/day

na = 4.991821

B = 8.24

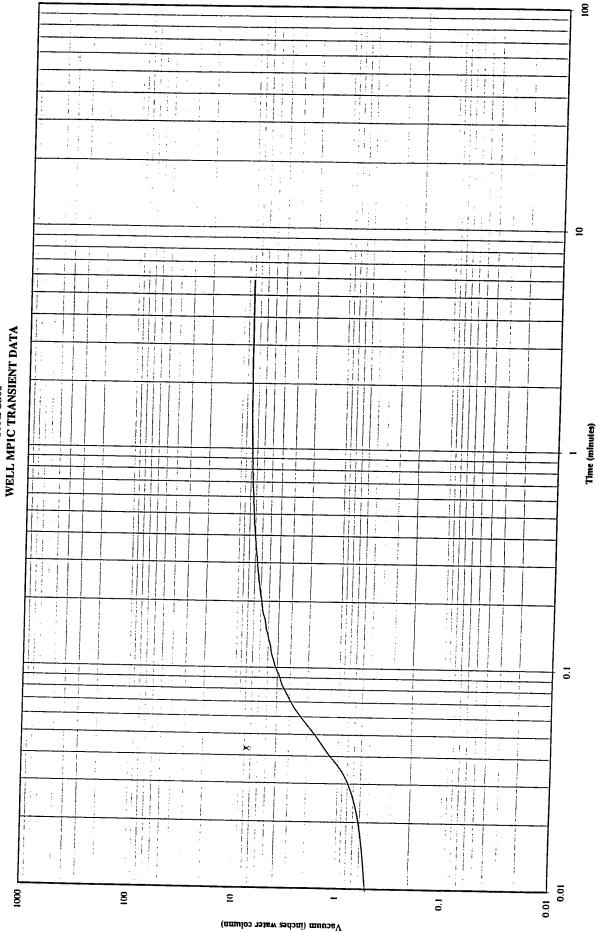
K' = 9.14E-03 cm/sec25.91 ft/day =

WURTSMITH AFB PILOT TESTING SITE SS06 WELL MPIB TRANSIENT DATA

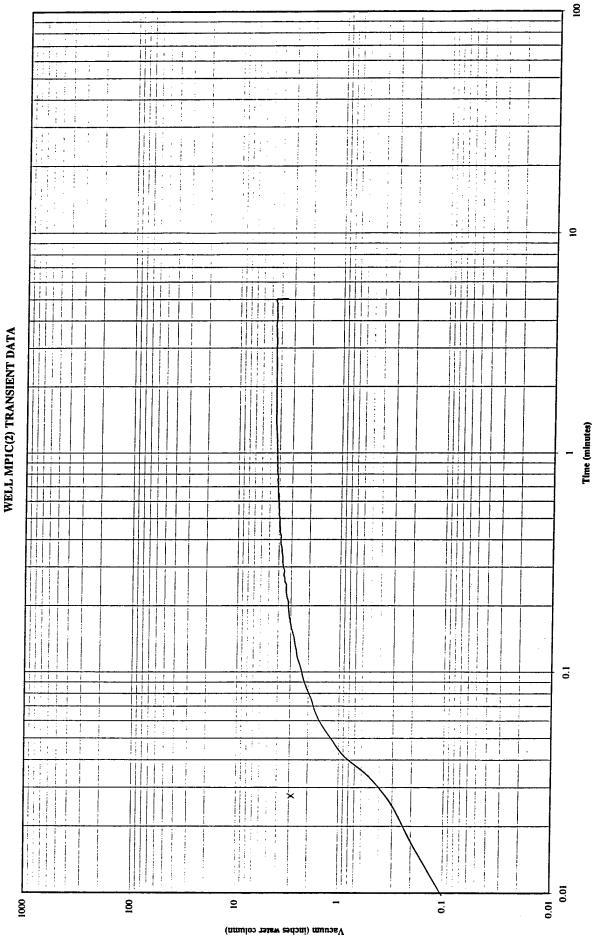


Time (minutes)

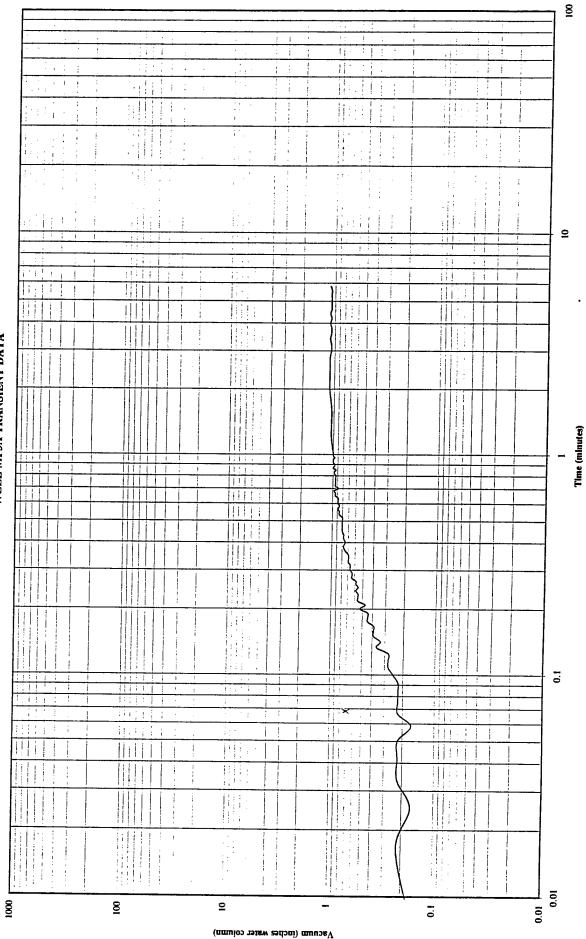
WURTSMITH AFB PILOT TESTING SITE SS06



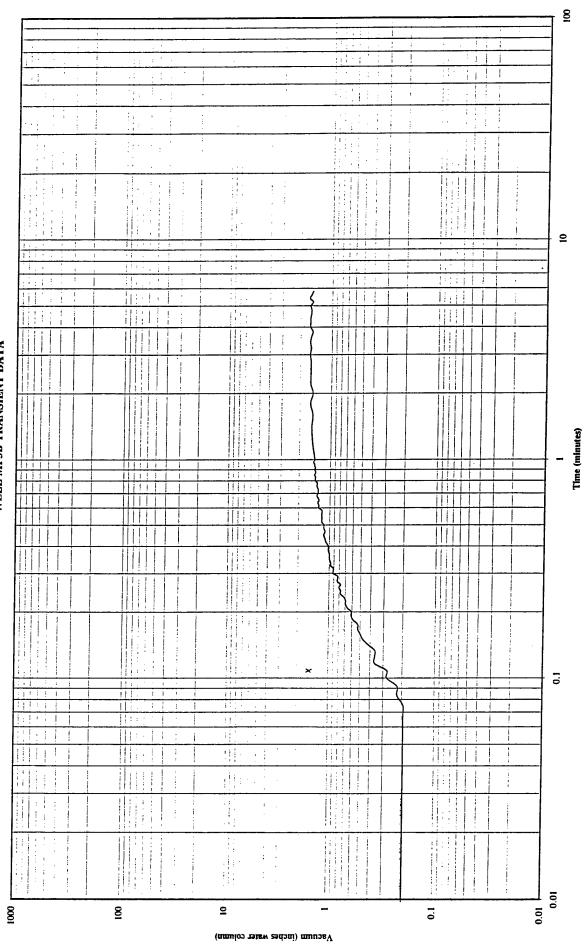
WURTSMITH AFB PILOT TESTING SITE SS06 WELL MPIC(2) TRANSIENT DATA



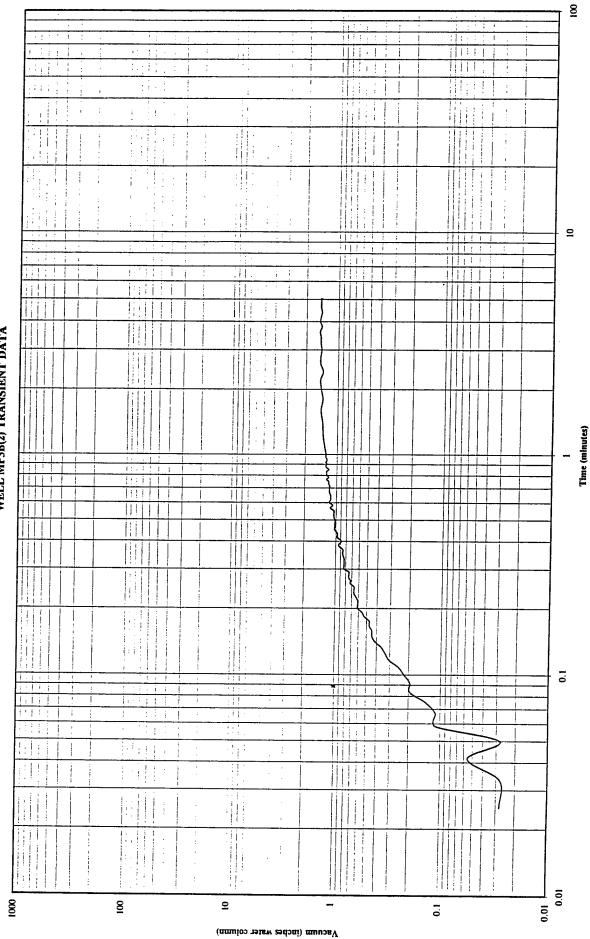
WURTSMITH AFB PILOT TESTING SITE SS06 WELL MP3A TRANSIENT DATA



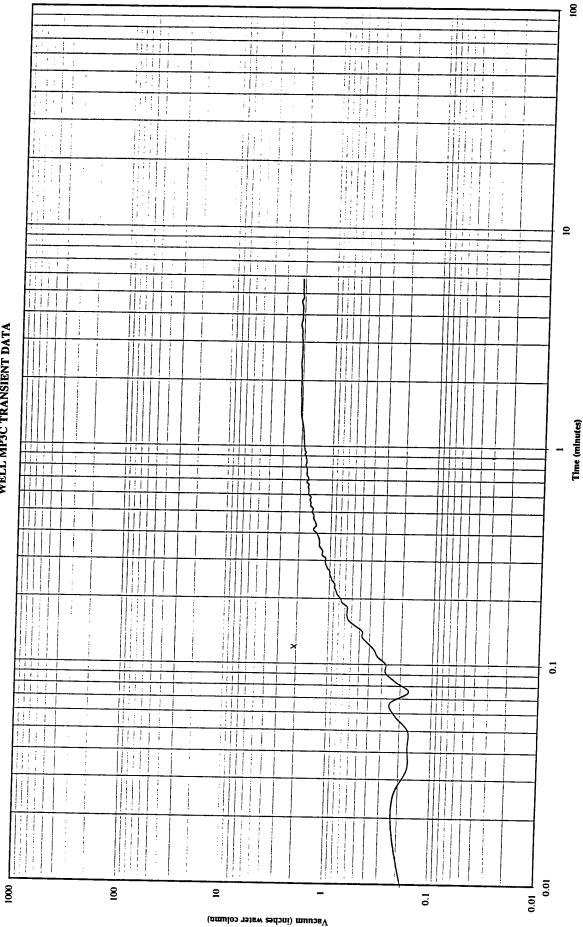
WURTSMITH AFB PILOT TESTING SITE SS06 WELL MP3B TRANSIENT DATA



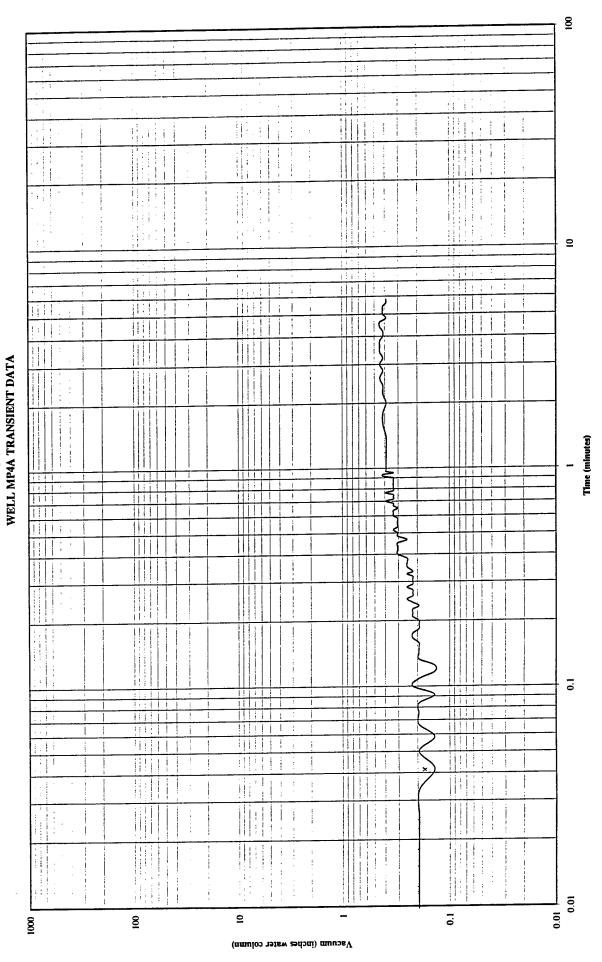
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP3B(2) TRANSIENT DATA



WURTSMITH AFB PILOT TESTING SITE SS06 WELL MP3C TRANSIENT DATA



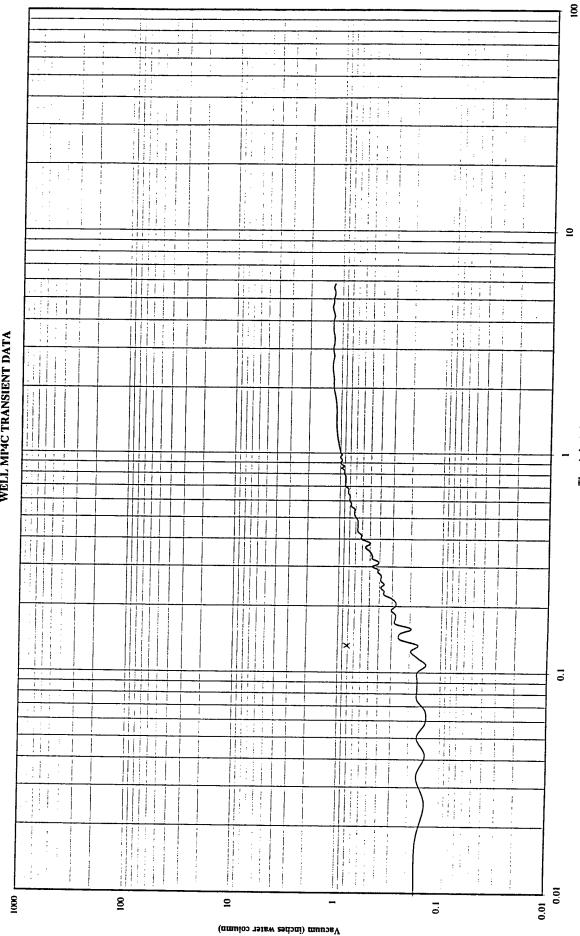
WURTSMITH AFB PILOT TESTING
SITE SS06



8 111: :111 2 WURTSMITH AFB PILOT TESTING WELL MP4B TRANSIENT DATA SITE SS06 Time (minutes) 11111 0.1 Till i i 111 1111 8 0.01 0.1 9 Vacuum (inches water column)

p:/proj/wurtsmith/ss06/pilotest/transype.xls

WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP4C TRANSIENT DATA



Time (minutes)

||||:||: 11111 1111111 2 11111 1111: 1111 WELL MP5C TRANSIENT DATA SITE SS06 0.1 111111 111 0.01 0001 8 9 0.01 Vacuum (inches water column)

WURTSMITH AFB PILOT TESTING

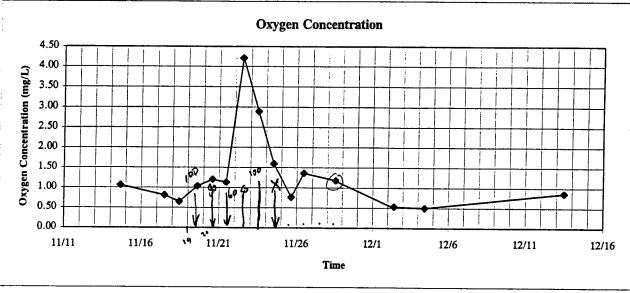
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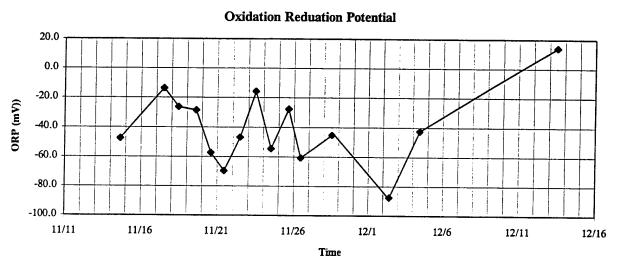
Time (minutes)

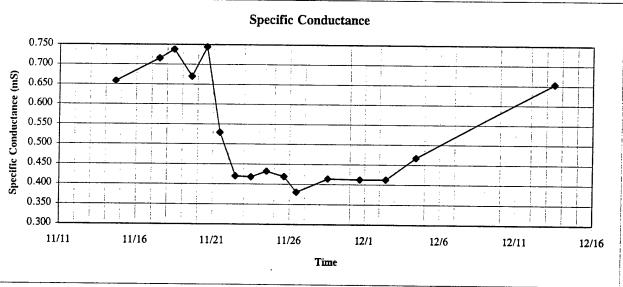
WURTSMITH PILOT TESTING SITE SS06 VACUUM STEP TEST, NOVEMBER 12, 1997

	Vacuum at	
	MP6	Flow Rate
Time	(inches H2O)	(scfm)
17:45	1.7	29.5
17:54	5.0	***
17:55	5.0	49.5
18:07	5.0	48.2
18:15	10.0	
18:23	10.2	88.5
18:30	10.2	87.6
18:40	15.0	
18:50	14.6	122.4
19:13	14.5	120.4
19:21	19.1	
19:30	19.1	157.4
19:46	19.1	156.4
20:45	19.1	154.3
20:53	14.8	
20:56	14.9	121.6
21:06	14.9	121.6
21:09	10.0	
21:14	10.0	82.8
21:22	10.0	82.8
21:26	5.0	
21:31	5.0	44.6
21:57	5.0	44.6

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1D

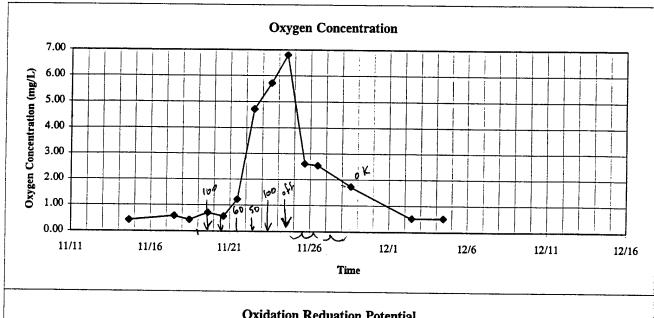


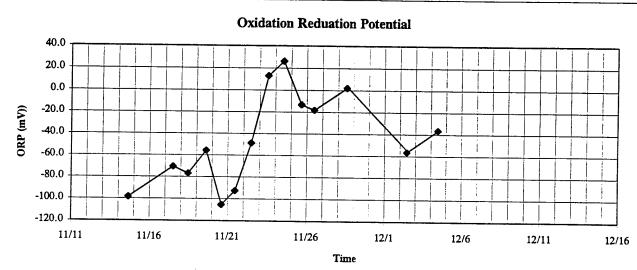


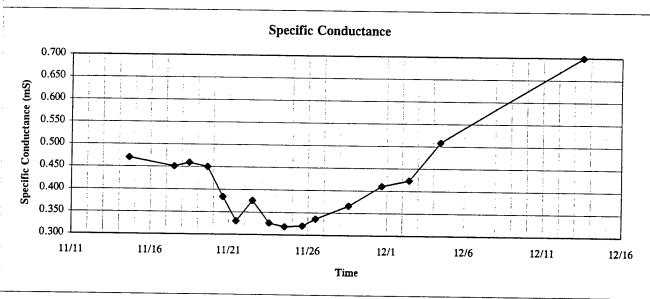


Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00 100% Sparge 11/23/97 16:55 SVE Off 11/24/97 10:30 Sparge Off 11/24/97 21:30

GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1E







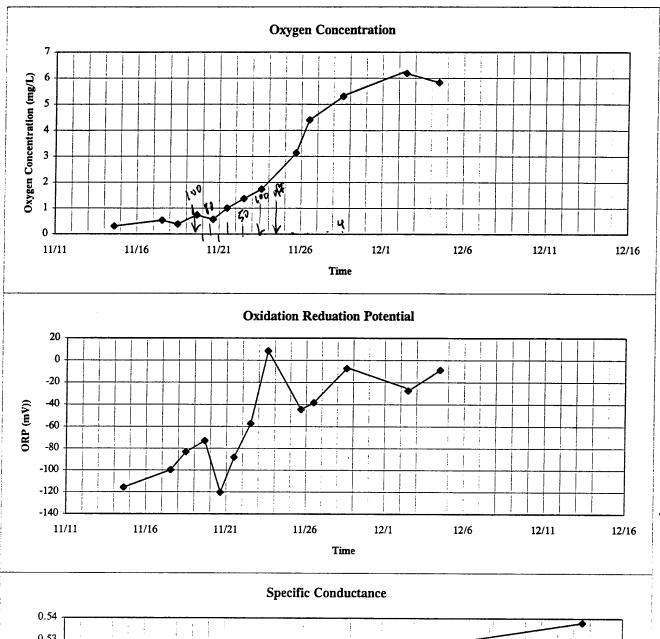
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

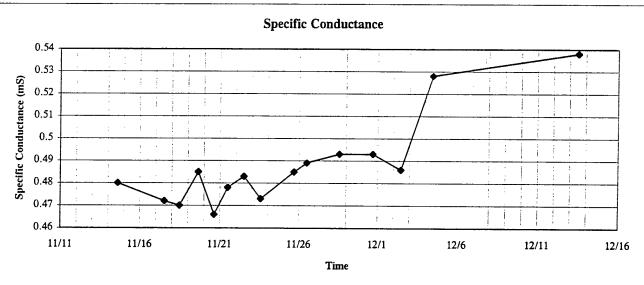
80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53

50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55 SVE Off 11/24/97 10:30 Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1F

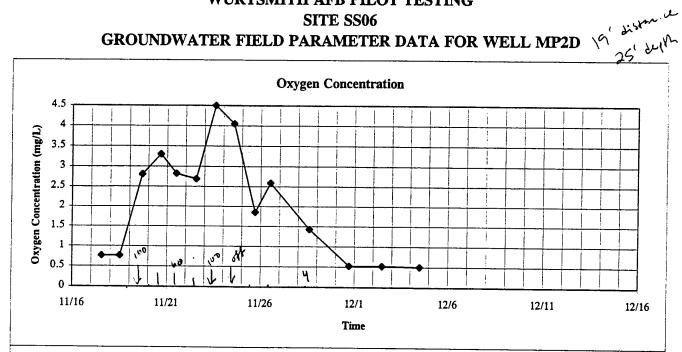


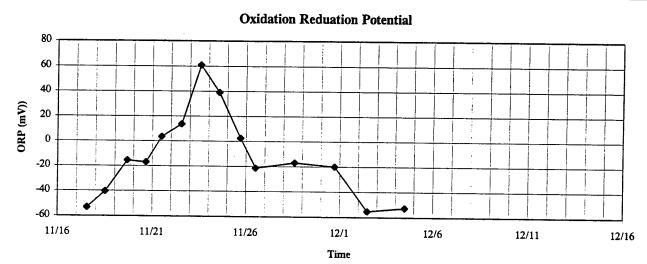


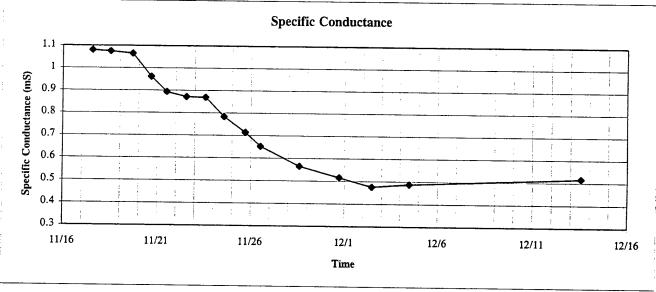
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING





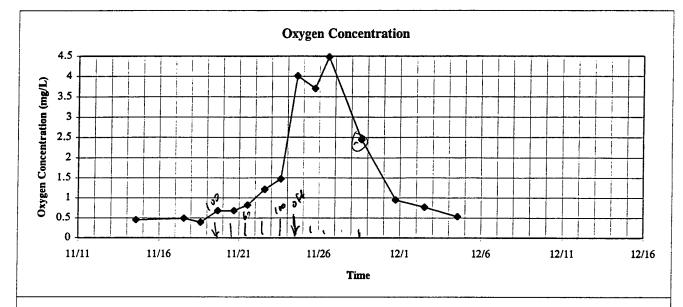


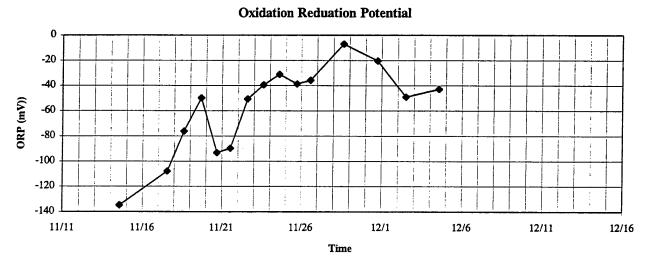
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

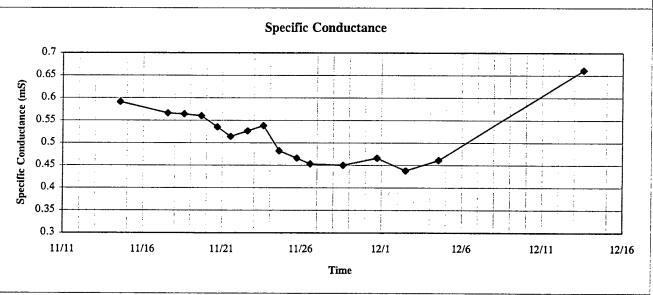
80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

2E 301 dq 12

GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2E





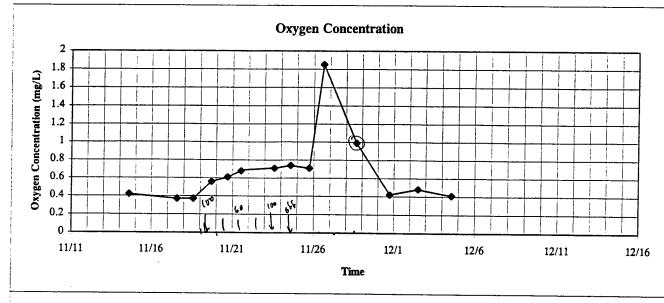


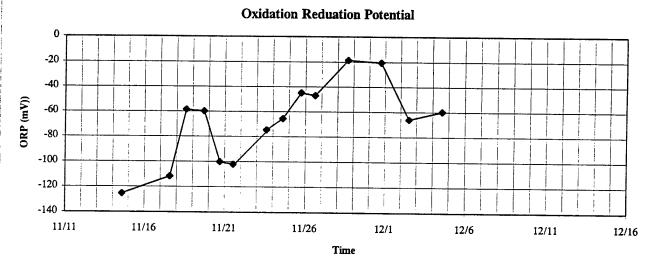
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08

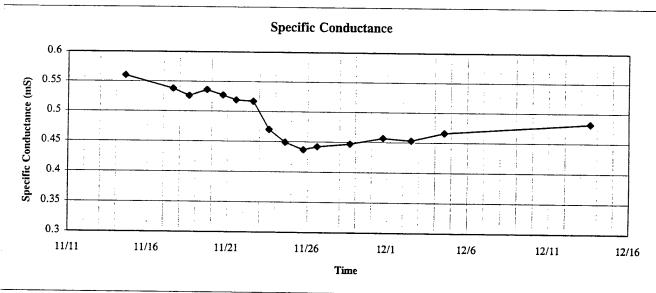
60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00



GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2F



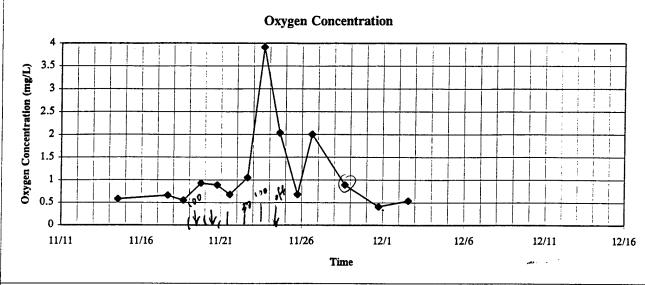


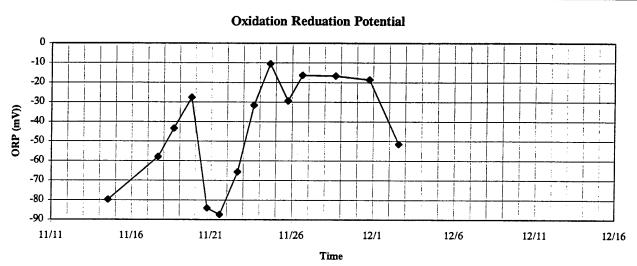


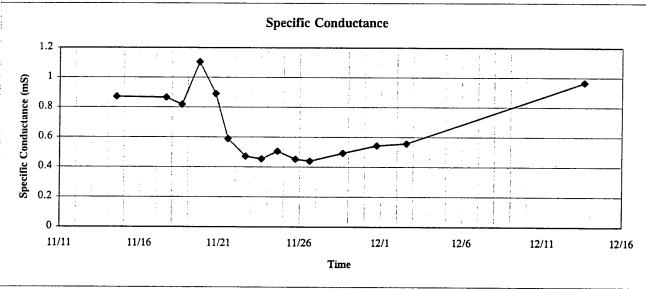
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53

50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3D







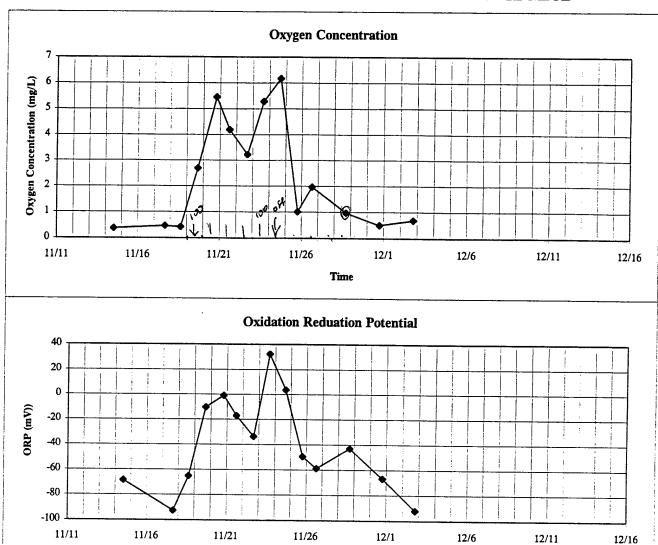
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53

50% Pulsed Sparge 11/22/97 15:00

15' dish

GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3E



Specific Conductance 8.0 0.7 Specific Conductance (mS) 0.6 0.5 0.4 0.3 0.2 0.1 0 11/11 11/16 11/21 11/26 12/1 12/6 12/11 12/16 Time

Time

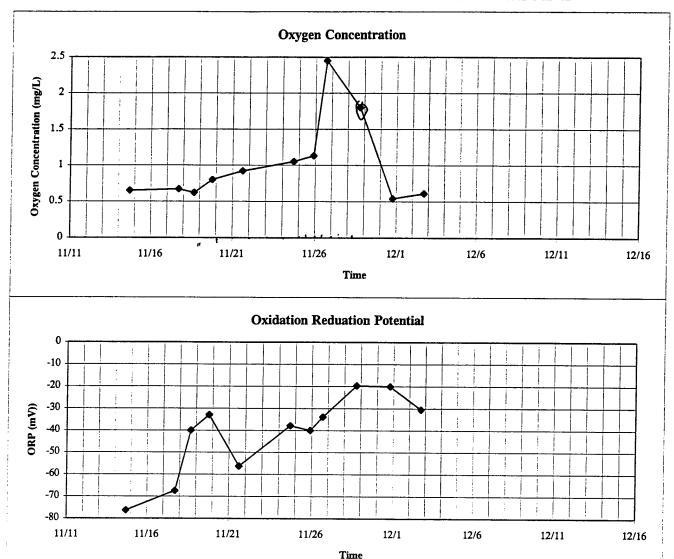
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

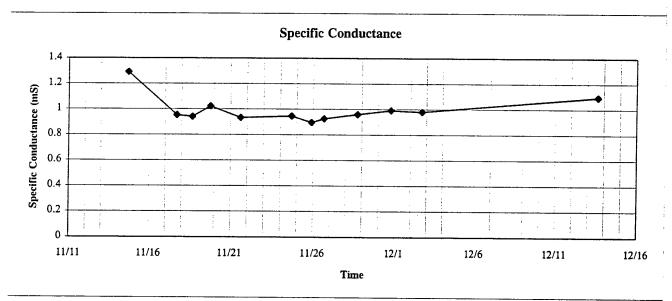
80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53

50% Pulsed Sparge 11/22/97 15:00

25° depth

GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4D



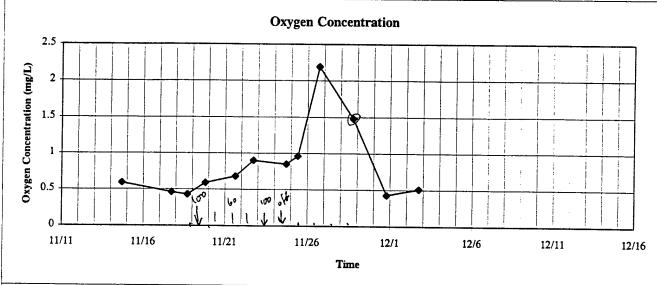


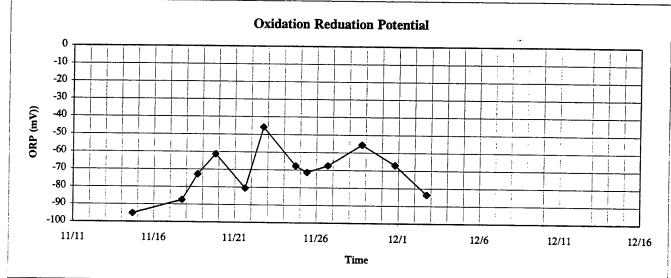
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

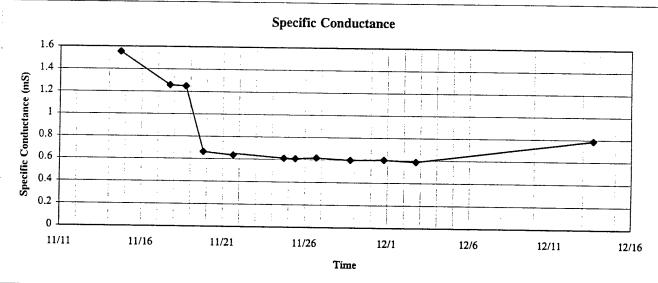
80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4E

33 dark 20 dist







Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

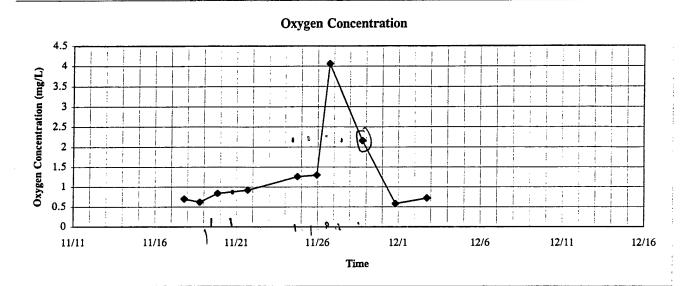
80% Pulsed Sparge 11/20/97 14:08

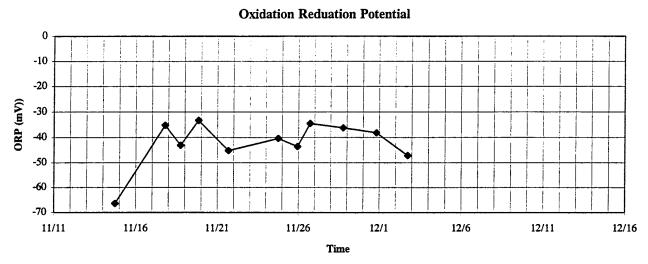
60% Pulsed Sparge 11/21/97 14:53

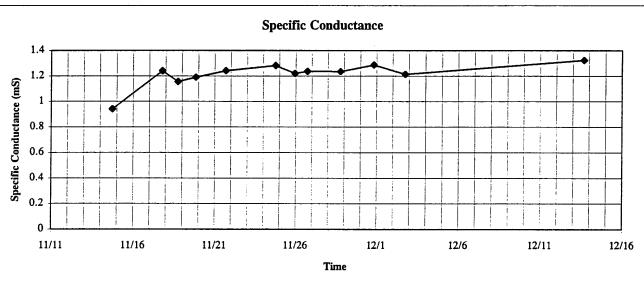
50% Pulsed Sparge 11/22/97 15:00

40' dist depth

GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5D



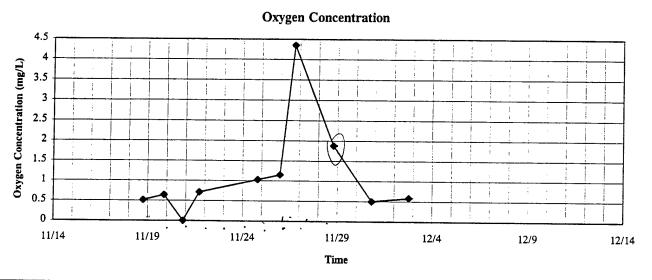


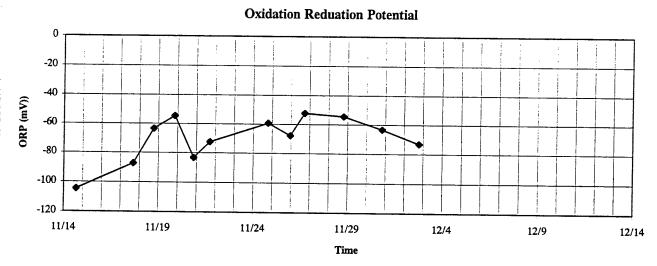


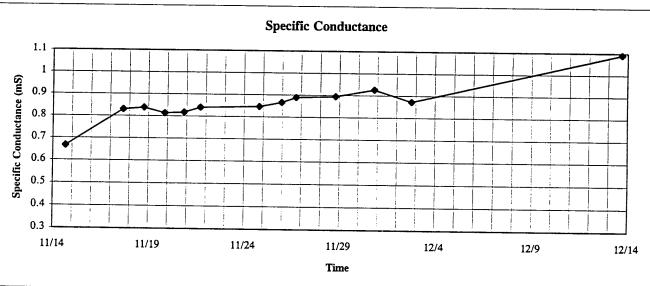
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5E









Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53

50% Pulsed Sparge 11/22/97 15:00



I	PROJECT	NUMBE
I	134853	

BORING NUMBER

28-SB07 Page 1

PROJECT : Travis	AFB WABOU RI	■ ROUND 2 LOCATION : Building 755			
ELEVATION: 72.7			DRILLING CONTRACTOR: WTRD		
	D AND EQUIPMEN	IT USED : Dril			
WATER LEVELS :	***		START : 3/8/96 END :	LOGGER: KROOK	
DEPTH BELOW SUF			CORE DESCRIPTION	COMMENTS	
INTERVAL	RECOVERY II. #/TYPE	Sample Field ID Number	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	
0			Clay (CL), silt and fine sand, saturated, stiff		
0.5	1.5		Silty Clay (CL), with fine sand, moist, friable, firm to stiff	Easy Drilling	
5.5	4		Silty Clay (CL), with fine sand, moist, friable, firm to stiff, with decreasing fine sand with depth		
7.5 8 9 9.5			Silty Sand (SM), fine, moderately dense, moist, Sandy Silt (ML), fine sand, moderately plastic, firm, moist,	OVM = 15.0 ppm. (bag)	



ı	PROJECT	NUMBER
	134853	

BORING NUMBER

28-SB07 Page 2

PROJECT : Travis AFB WABOU RI		ROUND 2 LOCATION : Building 755		
ELEVATION: 72.7		DRILLING CONTRACTOR: WTRD		
DRILLING METHOD AND EQUIPMENT WATER LEVELS:		Riq START : 3/8/96 END :	LOGGER: KROOK	
DEPTH BELOW SURFACE (FT)		CORE DESCRIPTION	COMMENTS	
INTERVAL (FT)		John Jessen Hon	COMMENTS	
RECOVERY ft. #/TYPE	Sample Field ID Number	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE. DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	
11				
11.5				
12				
12.5			OVM = 101.0 ppm. (bag) (5.	
13			_	
13.5		Silty Sand (SM), fine, moderately dense, moist,	4 -	
14				
14.5			-	
15			,	
15.5 3			-	
16			-	
16.5		Sandy Silt (ML), friable, firm, fine sand, moist	-	
17 17.5			-	
18			OVM = 84.0 com (bas)	
18.5			OVM = 84.0 ppm. (bag)	
19		Silt (ML), with fine sand, moderately friable, moist,	-	
19.5		moderately plastic	-	
20		•	† †	
20.5		Silty Sand (SM), fine to medium, moderately dense,	† †	
21 5		moist	1 .	
21.5		•	- * -	
-	1	•	7 7	



	A STATE OF THE STA	_
PROJECT NUMBER	BORING NUMBER	
134853	28-SB07 Page 3	

	.!					
PROJECT : Travis AFB WABOU RI ROUND 2 LOCATION : Building 755						
ELEVATION: 72.7 DRILLING CONTRACTOR: WTRD						
DRILLING METHOD AND EQUIPM	ENT USED : Drill					
WATER LEVELS :		START : 3/8/96 END :	LOGGER: KROOK			
DEPTH BELOW SURFACE (FT)	1	CORE DESCRIPTION	COMMENTS			
INTERVAL (FT) RECOVERY ft. #/TYPE	Sample Field ID Number	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.			
22		miter best.				
22.5		Silty Clay (CL), stiff to very stiff, with fine sand, moist,	Approximately SWL from B755 Piezometer OVM = 262 ppm. (bag)			
23.5		-	CVVV = 202 ppin. (oug)			
24.5		Silty Clay (CL), moist, friable plastic	_			
265		_				
26.5		Clay (CL), with some silt, very stiff, moist, little fine sand				
28		- -	OVM = 46.0 ppm. (bag)			
30		Silty Clay (CL), stiff, friable, moist, moderately plastic				
31 31.5		_				
32.5		Silty Sand (SM), fine to medium, loose, saturated	ية. Potential hydropunch location			



I	PROJECT	NUMBER
ı	134853	

BORING NUMBER

28-SB07 Page 4

PROJECT : Travis AFB WABOU RI	ROUND 2 LOCATION : Building 755			
ELEVATION: 72.7	DRILLING CONTRACTOR: WTRD			
DRILLING METHOD AND EQUIPMENT USED: I	Orill Riq START : 3/8/96 END :	LOGGER: KROOK		
DEPTH BELOW SURFACE (FT)	CORE DESCRIPTION	COMMENTS		
RECOVERY ft. Sample Field ID Number		DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.		
33		OVM = 47 ppm		
33.5	Silty Sand and Gravel (SM-GM), well graded, moderately dense, sub-angular, saturated, grading to	OVM = 1.8 ppm. (bag)		
35.	-	Potential hydropunch location		
365	Silty Clay (CL), moderately plastic, with fine sand,	-		
36.5	-	Core barrel wet		
38	_	OVM = 1.0 ppm. (bag)		
39	Siltstone (in up), hard, dense	Core barrel sticking in augers while tripping out		
39.5 40 B755-1408	Sandy Clay (CL), stiff, plastic, fine to medium sand	-		
40.5		Hole caved to 26', Should tag bottom at 43.5'		
41 4	_	Lost 17' of hole to caving and or heaving sands		
41.5	Sandy Clay (CL), stiff, plastic, fine to medium sand, grading increasing sand			
42.5	Silty Sand (SM), moderately dense, fine to medium	_		
43.5	Clay (CL), very stiff, with some fine sand	6° sand seam Bottom tagged at 43.5°		
 	-]		



PROJECT NUMBER	BORING NUMBER	
134853	28-SB07 Page 5	

PROJECT : Travis AFB WABOU RI			OU RI	ROUND 2 LOCATION : Building 755			
ELEVATION: 72.7					DRILLING CONTRA	CTOR: WTRD	
DRILLIN	G METH	D AND	EQUIPME	NT USED : Drill I	Rig		
WATER	LEVELS				START: 3/8/96	END:	LOGGER: KROOK
DEPTH B	ELOW SU	RFACE (F	T)		CORE	DESCRIPTION	COMMENTS
	INTERVA	RECOVE	RY ft.	Sample Field ID Number	MOISTURE CONTEN	ROUP SYMBOL, COLOR, T, RELATIVE DENSITY,	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
			1		OR CONSISTENCY, S MINERALOGY.	OIL STRUCTURE,	TESTS, AND INSTRUMENTATION.
44		<u> </u>	J		MINERALOG1.		Rearned out bore hole
44.5						-	
45.5					Silty Clay (CL), stiff, fra	able, moist, with little fine	
46.5		4.5				-	
47_						-	
48					Bedrock, sandstone, con	npetent -	
48.5	<u> </u> 					-	Refusal - rig picking up off jacks, Bottom of hole at 48.7'
49.5 50	-						
50.5						•	
51.5 						-	
52.5					-	. •]
53.5							
54_ 54.5_							£



PROJECT NUMBER	BORING NUMBER
134853	28-MW01 Page 1

	- Tensir	- AER WAROL	. 01		POLIND 2	14. 17. 18. 18. 18. 18. 18. 18. 18. 18. 18. 18
PROJECT : Travis AFB WABOU RI ELEVATION : 74.31					ROUND 2 LOCATION : Bui	Iding 755
			UIPME	ENT USED : Drill I	DRILLING CONTRACTOR: WTRD	
	LEVELS				START : 3/21/96 END :	LOGGER: TRUMAN
		JRFACE (FT)			CORE DESCRIPTION	COMMENTS
	INTERVA	AL (FT)		1		
	1 '	RECOVERY		Sample Field ID	SOIL NAME, USCS GROUP SYMBOL, COLOR,	DEPTH OF CASING, DRILLING RATE,
ļ	1 '	#/T	TYPE	Number	MOISTURE CONTENT, RELATIVE DENSITY,	DRILLING FLUID LOSS,
ļ	1 '			1 '	OR CONSISTENCY, SOIL STRUCTURE,	TESTS, AND INSTRUMENTATION.
0		<u> </u>	——	 	MINERALOGY. Silty Sand (SM), moist, loose, very fine sand.	
`_			!	l 1	Silky Sand (304), moist, rouse, very time same.	
0.5	1	İ		1 1	1	
V.3	<u> </u>		,	1 1	-	┩ -
, 1	!		,	1 1	1	0.00 0004 - 0.0-2-
' —	į		,	1 1	-	Soil cuttings OVM = 0.0 ppm
	i _'		,	1 1	Section of the sead medium	
1.5	ļ		,	1 1	Sandy Clay (CL), moist, soft, fine sand, medium plasticity.	┧ .
	!		,	1 1		
2	<u>.</u>		,	1 1	-	┛.
	1	İ	ļ	1 1	1	1
2.5	<u> </u>		1	1 1	1 -	_
į	ĺ !		!	1 1	1	Ţ
3	<u>i</u>	3	ļ	1 1	Clayey, gravely, sand (GC-SC), moist, medium dense, medium sand, fine gravel.	_
İ	ĺ		1	1 1	medium sause, time graves.	1 -
3.5	1 1		1	1 1	1	1 <u>.</u>
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4.5	! !		ļ	1 1	<u> </u>	1 _
-	i '		Ţ	1 1	-	1 -
5	ļ [†]	4.8	Ţ	1 1	Sand (SP), dry, loose, medium to fine sand	· [
	1	İ	ļ	1 1	-	1 -
5.5	1 '		1	l 1	1	1
	í '		•	1 1	-	1 -
6_	!		•	1 1	1	· I
	í '		1	1 1	i –	1 -
6.5	į'		1	1 1	Clayey Silt (ML), dry, medium stiff, friable	1
	í '		ļ	1 1	-	1 -
7	1 '		1	1 1		
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10	l!	2	1	1 1	1	Soil cuttings OVM = 0.0 ppm
_	† !	-	1	1 1	<i>i</i> –	≈ Son Cuttings O VIN ± 0.0 ppin
10.5	1 1		1	1 1	1	!
	<u> </u>		1	1 1	<i>-</i>	4 -



PROJECT	NUMBE
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134853

BORING NUMBER

28-MW01 Page 2

PROJECT : Travis AFB WABOU RI		ROUND 2 LOCATION : Building 755				
ELEVATION: 74.31		DRILLING CONTRACTOR: WTRD				
DRILLING METHOD AND EQUIPMENT USED: Drill Rig						
WATER LEVELS :		START: 3/21/96 END:	LOGGER: TRUMAN			
DEPTH BELOW SURFACE (FT)		CORE DESCRIPTION	COMMENTS			
RECOVERY ft.	Sample Field ID Number	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.			
11		Sandy Clay (CL), moist, very stiff, thinly bedded,				
11.5		medium to low plasticity.	7			
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12-			┥ .			
12.5			Soil cuttings OVM = 0.0 ppm			
13			╛.			
13.5						
14						
14.5			-			
			-			
15			-			
15.5			_			
16						
16.5						
17	:]			
17.5						
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18						
18.5			_			
19						
19.5		-				
20			Soil cuttings OVM = 0.0 ppm			
20.5			† · · · · · ·			
			-			
21		Gravely, Silty, Sand (SP-SM), moist, dense, medium to fine sand, fine gravel.	*			
21.5	,					



PROJECT NUMBER	BORING NUMBER
134853	28-MW01 Page 3

PROJECT : Travis AFB WABOU RI ELEVATION : 74.31 DRILLING METHOD AND EQUIPM	•	ROUND 2 LOCATION : Bu	lding 755				
DRILLING METHOD AND EQUIPM							
WATER LEVELS .	TENT USED : DAII		LOCCER: TRUMAN				
WATER LEVELS :			LOGGER: TRUMAN				
DEPTH BELOW SURFACE (FT)		CORE DESCRIPTION	COMMENTS				
INTERVAL (FT) RECOVERY 11. #/TYPE	Sample Field ID Number	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.				
22.5	B 75 5-3711	- -	-				
24 24.5 25		Gravely, Silty, Sand (SP-SM), moist, dense, medium to fine sand, fine gravel, occassional sandy silt (ML) lenses.					
26.5			Water encountered at 25.3' bgs, (water rose to 21.2)				
27	B755-1300	- -					
29		- - -	2 ounce jar soil sample taken at 29' bgs				



PROJECT NUMBER	3	BORING NUMBER

134853

28-MW01 Page 4

				<u> </u>		
PROJEC	T: Travis	AFB WAB	OU RI		ROUND 2 LOCATION : Built	ding 755
ELEVATION : 74.31 DRILLING CONTRACTOR : WTRD						
			QUIPME	NT USED : Drill		
	LEVELS				START: 3/21/96 END:	LOGGER: TRUMAN
		RFACE (FT	7		CORE DESCRIPTION	COMMENTS
	INTERVA	L (FT)		}		
1	l	RECOVE	ay ft.	Sample Field ID	SOIL NAME, USCS GROUP SYMBOL, COLOR,	DEPTH OF CASING, DRILLING RATE,
1			#/TYPE	Number	MOISTURE CONTENT, RELATIVE DENSITY,	DRILLING FLUID LOSS.
Ì					OR CONSISTENCY, SOIL STRUCTURE,	TESTS, AND INSTRUMENTATION.
L				l	MINERALOGY.	
33		i				
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33.5						
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١.,					Total Dominion and	
34_					Total Depth = 34.0'	_
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TRANSACTION REPORT

Transmission

Transaction(s) completed

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DURATION PGS.

, RESULT

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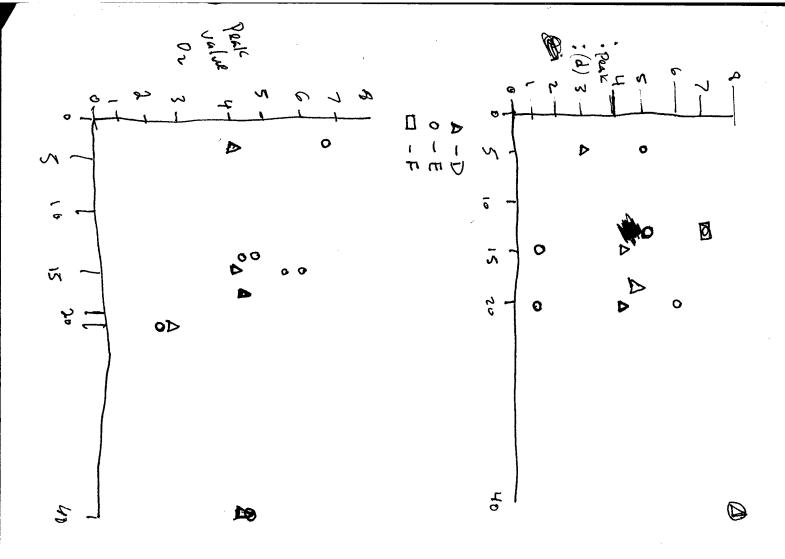
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Draft Remedial Action Plan/Decision Document Sites SS-06, ST-40, SS-13, and ST-46 November 12, 1996

In the remedial design, the area of treatment necessary and the number of SVE and air sparge wells would be based on pilot-scale testing, the current remedial investigation results, and additional subsurface sampling as needed to verify the area of contamination. Pilot-scale testing and additional sampling may show that the remedial design only needs to include sparge wells in a few areas of peak contamination thus reducing the number of sparge wells. Laboratory and pilot-scale treatability studies would need to be conducted to better assess the effectiveness and verify the feasibility of using these technologies for contaminate removal by volatilization and biodegradation. laboratory biofeasibility studies, representative soil samples collected from areas containing residualphase LNAPL should be evaluated to confirm the presence of hydrocarbon-degrading microbial populations in the soil, establish baseline levels at the site, and estimate contaminant degradation rates. Inorganic ion concentrations of ammonium, nitrogen, and phosphates, and soil pH levels would need to be evaluated to optimize and assess the need for nutrient mixtures and application rates. The pilot study would be conducted to determine the radial influence of a single air sparge well and a single vapor extraction well, sparge flow rates and pressures, soil vapor extraction flow rates and expected concentrations in the extracted vapor. The air sparge and vapor extraction well(s) installed for the pilot-scale treatability study could also be used during full-scale. The pilot study will determine if vapor-phase treatment is necessary and for how long. The cost estimate assumes that the Benzene Plant thermal off-gas treatment system can also be used to treat the biosparging vapors. This is discussed further in the Draft Final FS Report.

Performance monitoring and maintenance of the system would be performed on a weekly and monthly basis. Field screening of extracted vapors would be performed to assess the need for system adjustment (i.e., adjust vacuum or sparge pressures). Monthly vapor samples would be collected and submitted for laboratory analyses of VOCs, PNAs, and carbon dioxide.

The cost estimate presented in Table 5-2 is based on the cost estimate for Alternative POL-4 presented in Table 5-10 of the FS report. The air sparging/SVE system cost estimate in Table 5-2 is different than that of Table 5-10 of the FS report because of the larger number of SVE wells. For this cost estimate these differences are accounted for by proportionally increasing the cost related to the SVE well system.

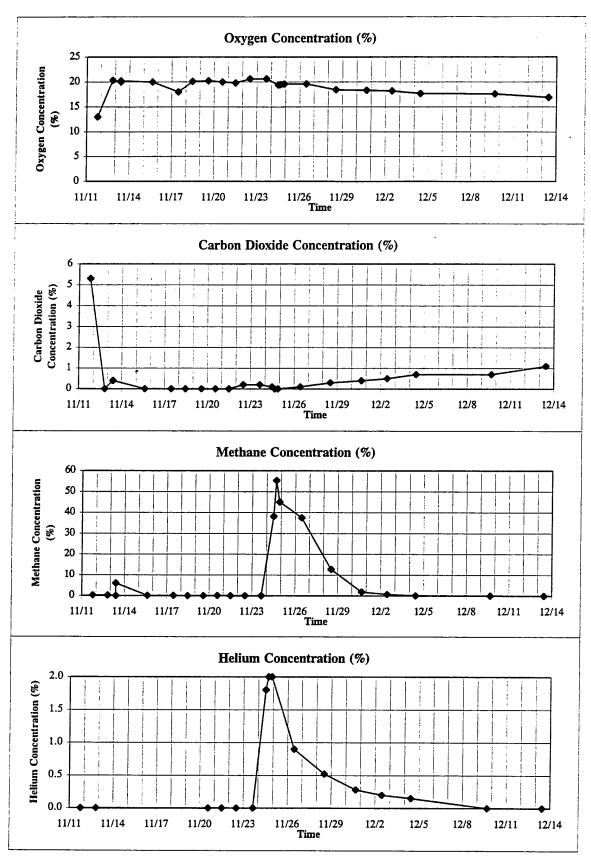
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5-11

		Penk (gffer_d)	(e48/	afer mosial
MP.	D	4.2 (3)	1.2	162/40 Pm
5/	E	6.8 (5)	1.8	.6/,7
	(R:s:v=9)	6.2 (13)	5.2	06/.8
MP2	19° D 25'	4,3(4)	1.5	3.2/.8
	E 30	4(5) +4.5(7)	2.5	.6/,5
	F Vlo'	1.8(7)	1	.6/,4
mp3	.D 58,	4 (4)	9	.8/.6
151	E 33'	65.5(1)+6(5)		5.5/.5
	D 28'	2.5 (8)).8	.8/.7
20	E 33'	2.2 (7)	1.5	1.7/.5
mp 5	D 35'	4.1 (8)	2,2	9/.6
	£ 33'	N.4 (8)	6,67	0/.5

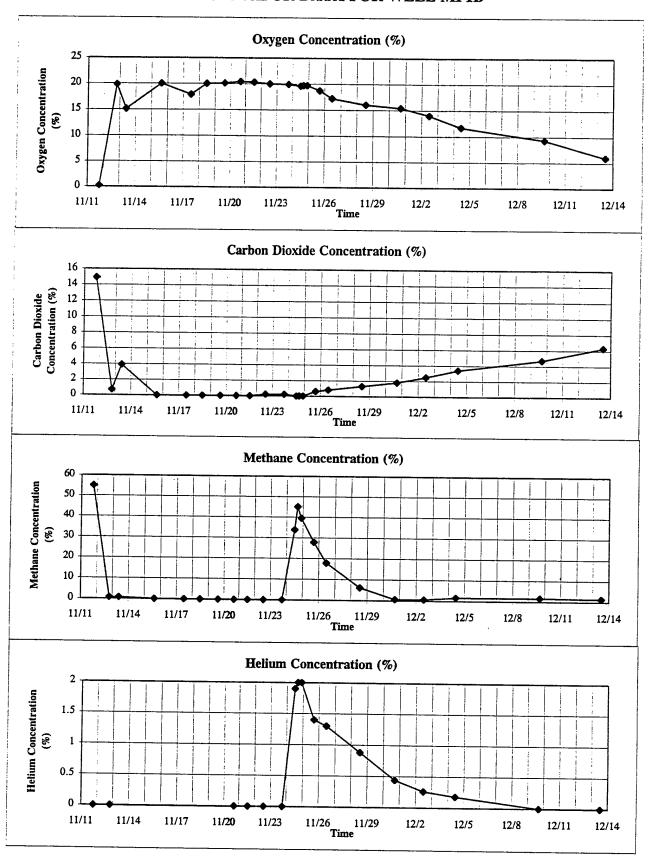
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WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR DATA FOR WELL MP1A



Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

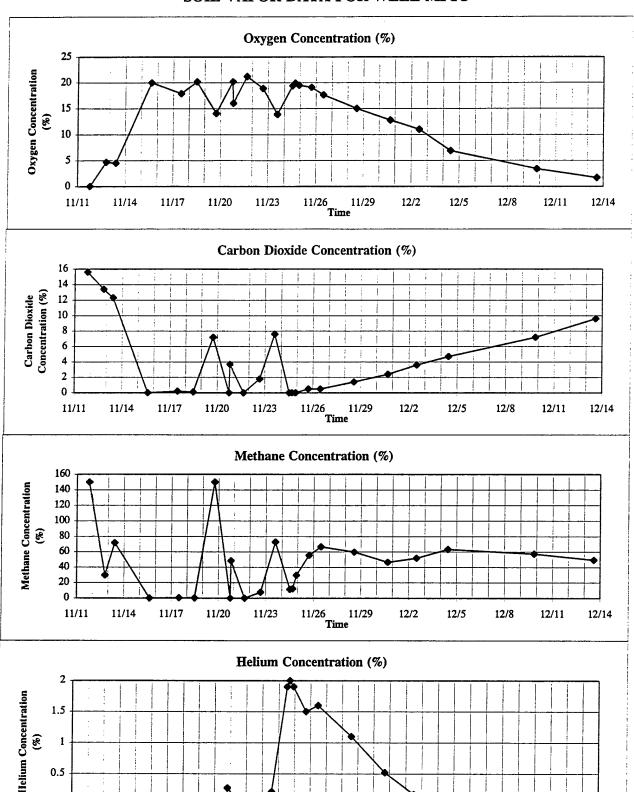
WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR DATA FOR WELL MP1B



Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR DATA FOR WELL MP1C



Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

11/11

11/14

11/17

11/20

11/23

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

11/26 Time

11/29

12/2

12/5

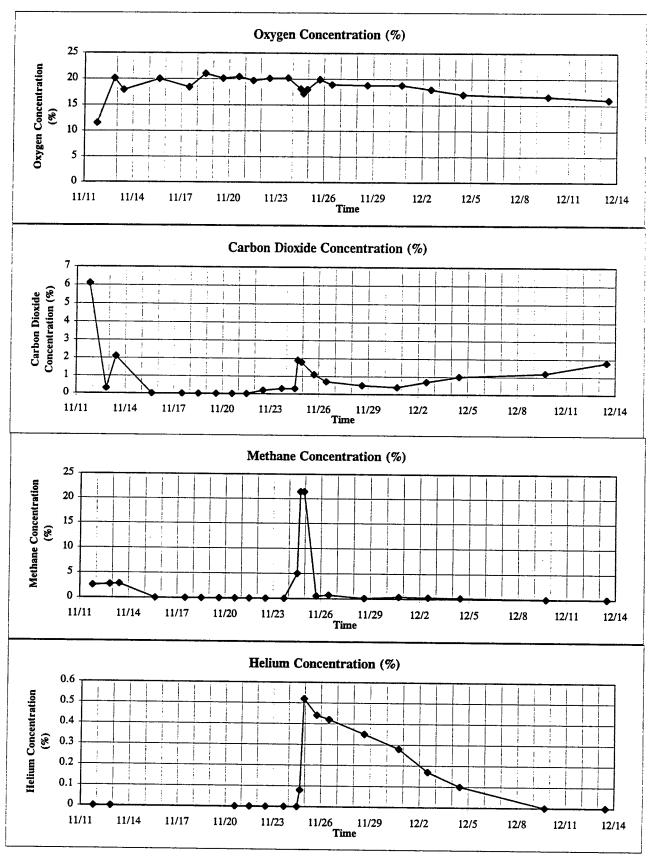
12/8

100% Sparge 11/23/97 16:55 SVE Off 11/24/97 10:30 Sparge Off 11/24/97 21:30

12/14

12/11

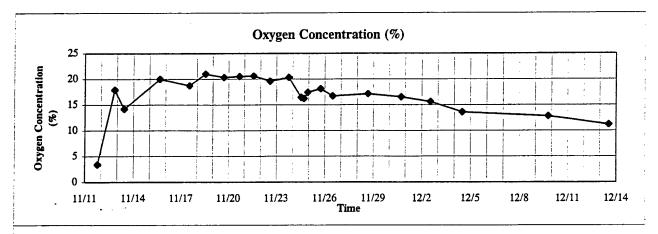
WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP2A

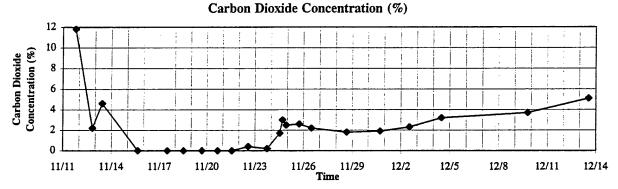


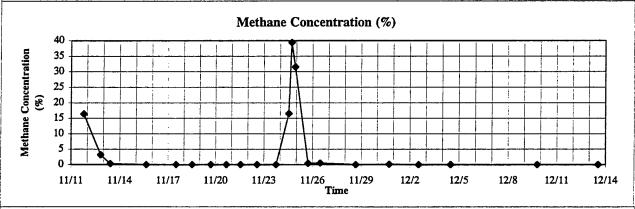
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

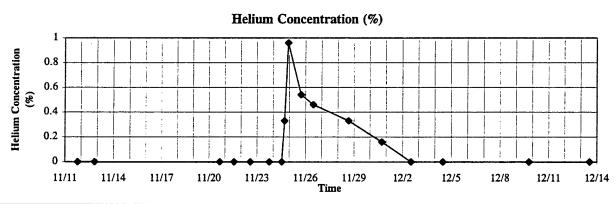
80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP2B



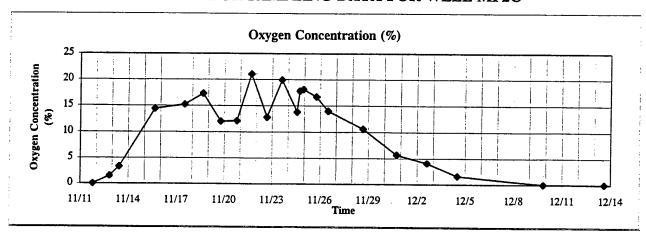


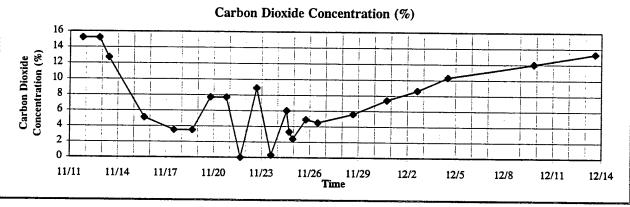


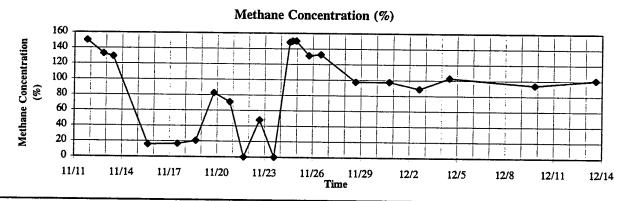


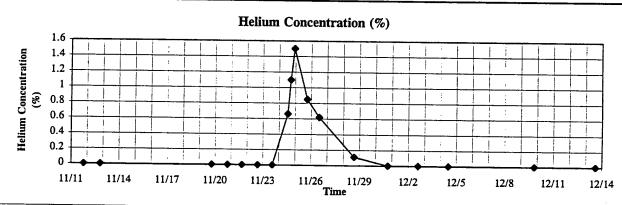
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP2C





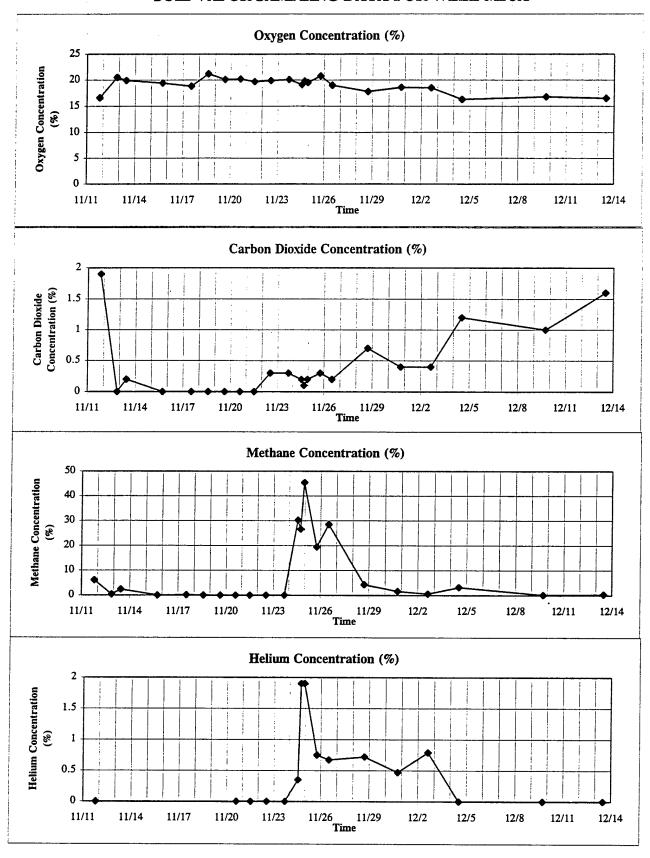




Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

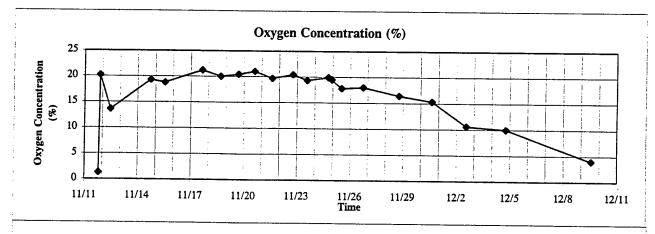
80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

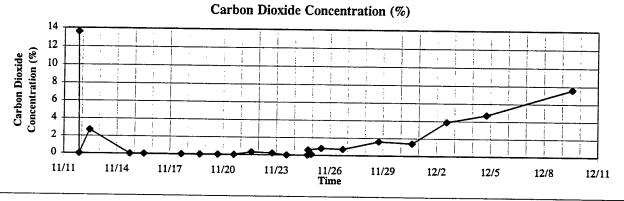
WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP3A

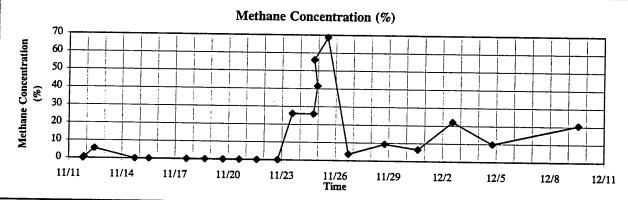


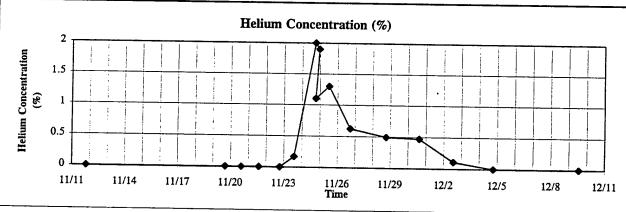
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP3B





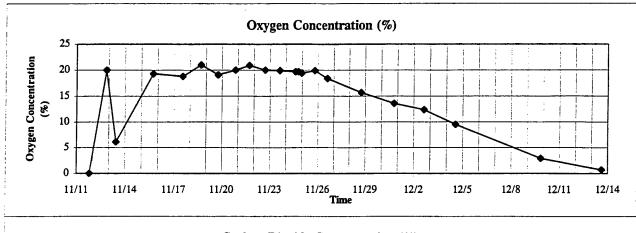


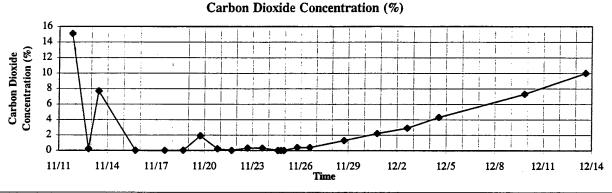


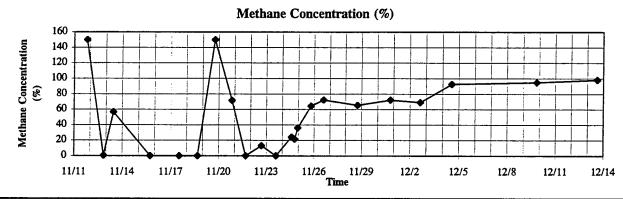
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

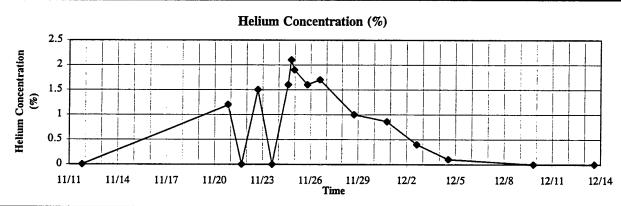
80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP3C





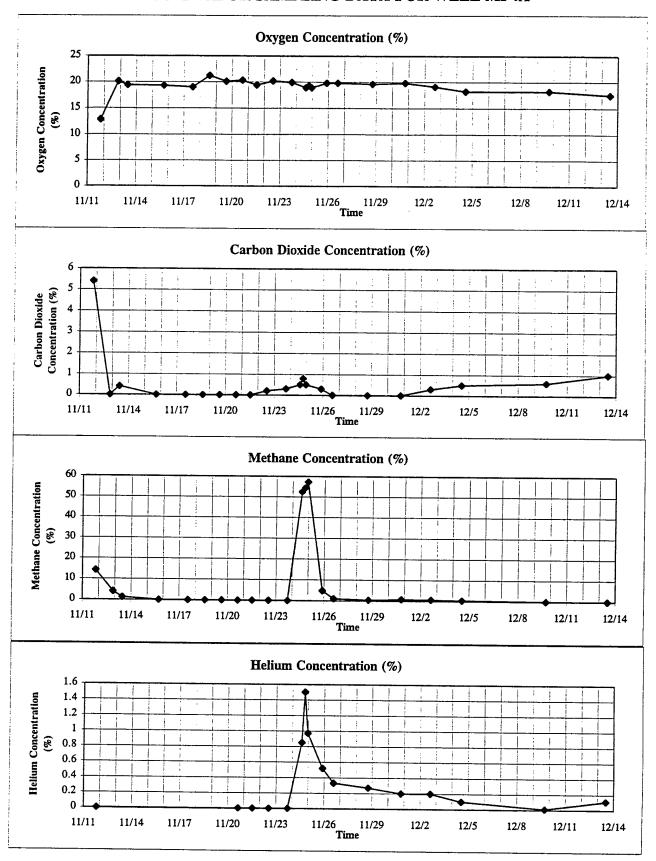




Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

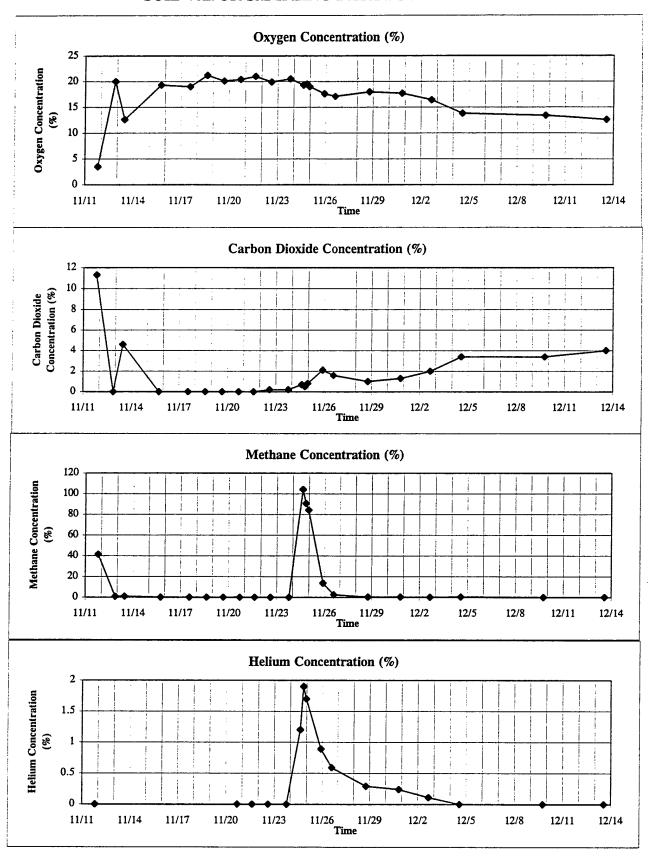
WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP4A



Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

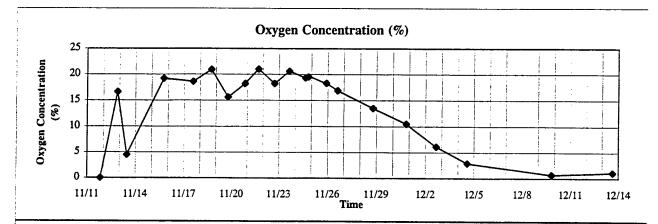
80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

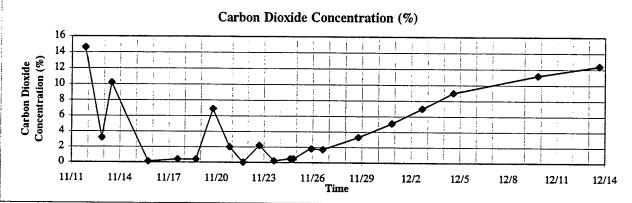
WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP4B

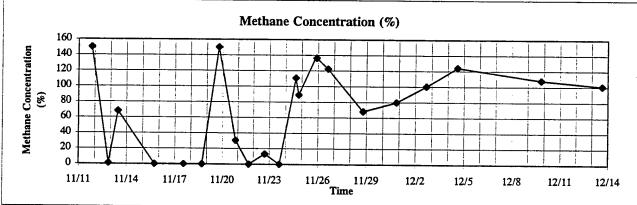


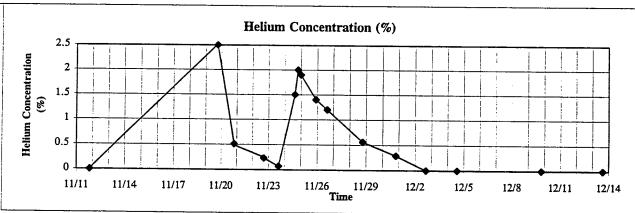
Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP4C





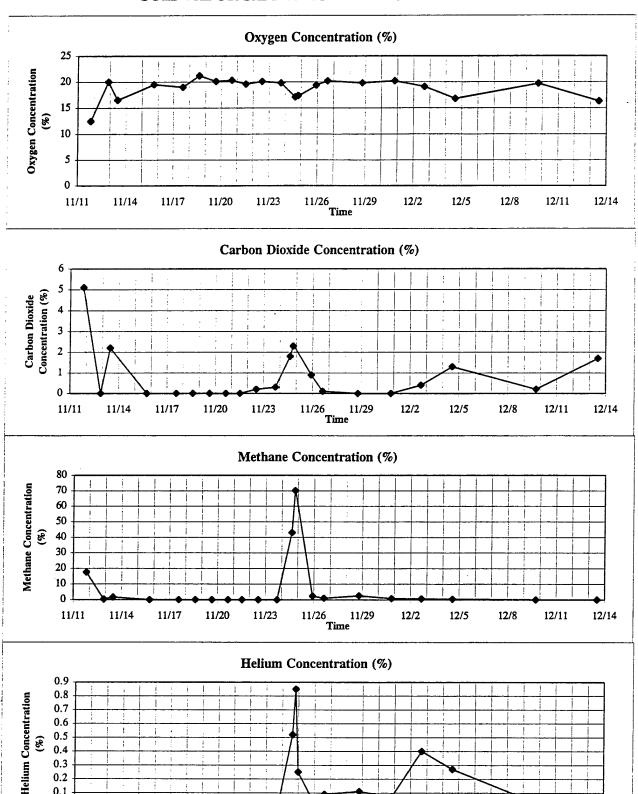




Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP5A



Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

11/11

11/14

11/17

11/20

11/23

0.1

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

11/26 Time

11/29

12/2

12/5

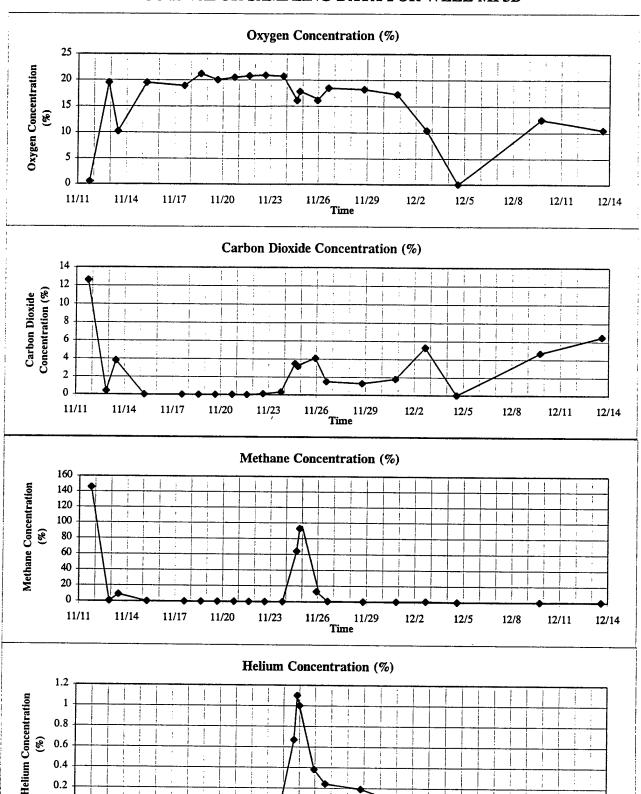
12/8

100% Sparge 11/23/97 16:55 SVE Off 11/24/97 10:30 Sparge Off 11/24/97 21:30

12/14

12/11

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP5B



Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

0.2

11/11

11/14

11/17

11/20

11/23

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

11/26 Time

11/29

12/2

12/5

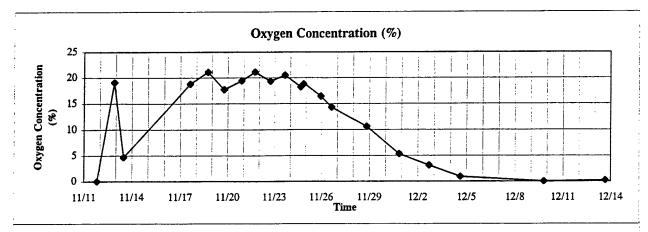
12/8

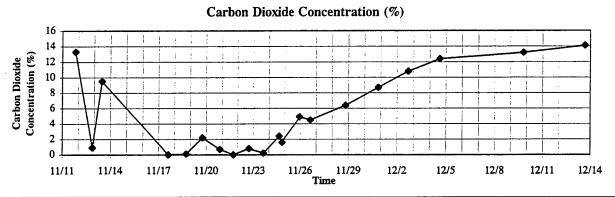
100% Sparge 11/23/97 16:55 SVE Off 11/24/97 10:30 Sparge Off 11/24/97 21:30

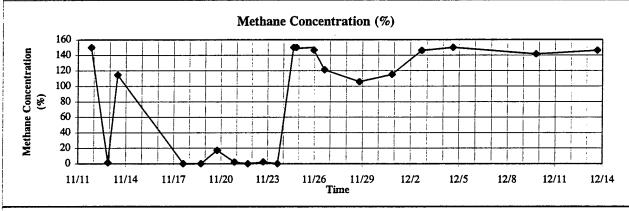
12/11

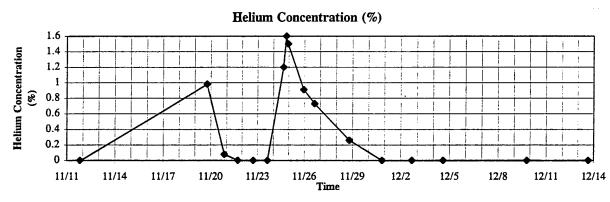
12/14

WURTSMITH AFB PILOT TESTING SITE SS06 SOIL VAPOR SAMPLING DATA FOR WELL MP5C





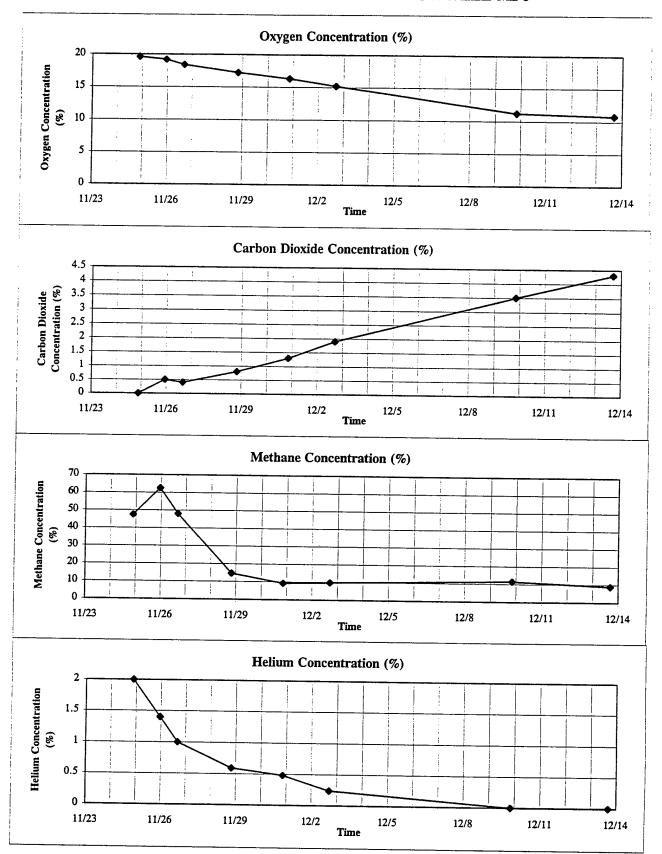




Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50 80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00 100% Sparge 11/23/97 16:55 SVE Off 11/24/97 10:30 Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING SITE SS06 VAROR SAMBLING DATA FOR WELL MORE

SOIL VAPOR SAMPLING DATA FOR WELL MP6



Air Permeability Testing on 11/12/97 Constant Rate Extraction 11/13/97 16:00 Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08 60% Pulsed Sparge 11/21/97 14:53 50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55 SVE Off 11/24/97 10:30 Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1D

Test Location SS06 Groundwater Monitoring Well MP1D

	Total Dissolved							Specific Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 15:53	0.427*	0.33*	5.39	6.74	9.22	1.06	-47.6	0.658*
11/17/97 12:00	0.464*	0.36*	5.91	6.65	7.00	0.81	-13.8	0.715*
11/18/97 10:55	0.478*	0.37*	8.89	6.72	5.60	0.65	-26.4	0.738*
11/19/97 14:39	0.435	0.33	8.91	6.68	8.90	1.03	-28.6	0.670
11/20/97 14:16	0.472	0.36	9.71	6.73	10.50	1.20	-57.3	0.744
11/21/97 11:02	0.342	0.26	7.78	6.89	9.50	1.13	-69.7	0.529
11/22/97 11:22	0.313	0.23	5.07	6.82	28.20	4.21	-46.9	0.420
11/23/97 11:42	0.276	0.20	5.38	6.99	16.10	2.89	-15.8	0.418
11/24/97 12:06	0.280	0.21	8.91	7.20	13.80	1.59	-54.5	0.432
11/25/97 15:31	0.271	0.20	9.93	7.35	6.80	0.76	-27.8	0.419
11/26/97 11:06	0.247	0.18	8.46	7.23	11.50	1.36	-60.7	0.380
11/28/97 13:00	0.269	0.20	10.47	7.13	10.60	1.18	-45.2	0.414
11/30/97 16:35	0.268	0.20	7.16	7.05	45**	5.47**	10**	0.412
12/2/97 10:18	0.269	0.20	7.40	7.19	4.40	0.53	-87.6	0.412
12/4/97 10:36	0.304	0.23	9.39	7.04	4.30	0.50	-42.5	0.467
12/13/97 11:54	0.424	0.28	4.83	6.98	6.80	0.86	14.1	0.653

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1E

Test Location SS06
Groundwater Monitoring Well MP1E

	Total						i i	Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 15:37	0.305*	0.23*	5.79	7.03	3.61	0.42	-98.5	0.470*
11/17/97 12:30	0.293*	0.22*	5.57	6.98	5.10	0.58	-70.6	0.451*
11/18/97 11:25	0.298*	0.22*	8.91	7.06	3.70	0.43	-77.0	0.459*
11/19/97 15:03	0.292	0.22	8.58	6.99	6.10	0.71	-55.8	0.450
11/20/97 14:57	0.250	0.19	9.38	7.13	5.00	0.57	-105.4	0.384
11/21/97 11:24	0.215	0.16	7.09	7.16	10.10	1.22	-92.6	0.330
11/22/97 11:47	0.244	0.18	7.24	7.09	38.80	4.71	-48.8	0.376
11/23/97 13:15	0.212	0.16	6.25	7.39	46.80	5.71	13.0	0.326
11/24/97 12:51	0.207	0.15	8.58	7.47	57.60	6.80	26.2	0.318
11/25/97 15:51	0.208	0.15	9.65	7.41	23.00	2.61	-13.2	0.320
11/26/97 11:31	0.216	0.16	7.59	7.39	21.70	2.54	-18.3	0.336
11/28/97 13:35	0.238	0.18	9.73	7.33	15.20	1.73	2.0	0.366
11/30/97 16:45	0.266	0.20	7.94	7.17	26.9**	3.19**	4.1**	0.410
12/2/97 10:45	0.274	0.20	7.82	7.15	4.30	0.52	-56.6	0.423
12/4/97 10:59	0.330	0.25	8.96	7.06	4.50	0.52	-36.5	0.508
12/13/97 12:26	0.454	0.34	5.37	6.88	11.3**	1.42**	-18.2**	0.699

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1F

Test Location SS06 Groundwater Monitoring Well MP1F

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 15:05	0.313*	0.24*	7.08	7.19	2.5	0.3	-115.9	0.480*
11/17/97 13:05	0.307*	0.23*	8.08	7.15	4.5	0.53	-99.8	0.472*
11/18/97 11:45	0.305*	0.23*	8.48	7.22	3.2	0.38	-83.3	0.470*
11/19/97 15:45	0.314	0.23	6.35	7.15	5.5	0.74	-73.1	0.485
11/20/97 15:38	0.303	0.23	8.52	7.18	4.9	0.57	-120.4	0.466
11/21/97 11:51	0.311	0.23	6.9	7.05	8.2	1	-88.1	0.478
11/22/97 12:20	0.315	0.23	6.67	6.98	11.3	1.37	-57.5	0.483
11/23/97 13:35	0.309	0.23	5.95	7.11	13.9	1.74	8.3	0.473
11/24/97 13:19	0.208**	0.15**	8.91**	7.46**	52.2**	6.03**	40.1**	0.32**
11/25/97 16:22	0.315	0.24	9.02	7.08	27.1	3.13	-44.6	0.485
11/26/97 11:51	0.313	0.23	7.79	7.09	36.9	4.39	-38.5	0.489
11/28/97 14:05	0.32	0.24	9.21	7.11	46.2	5.3	-7.5	0.493
11/30/97 17:05	0.32	0.24	7.74	7.17	75.3**	8.96**	29.9**	0.493
12/2/97 11:10	0.317	0.24	7.77	7.12	52	6.18	-27.6	0.486
12/4/97 11:27	0.343	0.26	8.43	7.14	49.9	5.83	- 9	0.528
12/13/97 12:52	0.35	0.26	5.2	7.15	55.5**	7.03**	5.9**	0.538

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2D

Test Location SS06 Groundwater Monitoring Well MP2D

	Total Dissolved							Specific Conductance
Time	Solids (g/L)	Salinity	Temp (C)	рН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/17/97 13:27	0.702*	0.56*	9.82	6.42	6.7	0.76	-53.2	1.08*
11/18/97 12:15	0.699*	0.55*	9.49	6.48	6.7	0.76	-40.5	1.075*
11/19/97 16:18	0.692	0.53	9.64	6.45	24.8	2.8	-15.7	1.065
11/20/97 16:12	0.626	0.48	9.57	6.56	29	3.3	-17.2	0.961
11/21/97 12:17	0.581	0.44	8.34	6.54	24.2	2.82	3.4	0.893
11/22/97 13:36	0.56	0.43	6.94	6.59	22.2	2.69	13.6	0.871
11/23/97 14:00	0.565	0.43	4.26	6.68	34.6	4.5	60.9	0.869
11/24/97 13:52	0.509	0.39	9.53	6.76	35.6	4.05	39	0.783
11/25/97 16:57	0.463	0.35	10.1	6.81	16.5	1.85	2.4	0.713
11/26/97 12:25	0.424	0.32	9.2	6.85	22.6	2.59	-21.4	0.652
11/28/97 14:25	0.368	0.27	10.17	7	12.8	1.43	-17	0.565
11/30/97 17:25	0.335	0.25	4.77	7.07	4.6	0.52	-20.1	0.516
12/2/97 11:39	0.309	0.23	8.87	7.04	4.6	0.52	-55.4	0.476
12/4/97 12:10	0.316	0.24	10.43	7.08	4.5	0.5	-52.7	0.487
12/13/97 13:14	0.336	0.25	5.11	7.12	13.4**	1.69**	-0.6**	0.516

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2E

Test Location SS06
Groundwater Monitoring Well MP2E

	Total							Specific
	Dissolved				ĺ			Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 13:55	0.384*	0.3*	8.21	6.95	3.8	0.45	-134.8	0.591*
11/17/97 13:50	0.367*	0.28*	8.86	6.95	4.2	0.49	-108	0.566*
11/18/97 14:51	0.368*	0.28*	8.79	7.03	3.2	0.39	-76.3	0.564*
11/19/97 16:45	0.364	0.27	9.06	6.92	5.9	0.68	-49.8	0.56
11/20/97 16:48	0.347	0.26	8.61	6.98	5.7	0.68	-93.3	0.535
11/21/97 12:46	0.333	0.25	8.4	6.98	6.9	0.82	-89.7	0.514
11/22/97 14:12	0.338	0.25	6.98	7.05	10.1	1.21	-50.7	0.526
11/23/97 14:21	0.351	0.26	4.41	7.04	11.3	1.47	-39.4	0.538
11/24/97 14:22	0.314	0.23	8.35	7.1	34.2	4.01	-31.1	0.482
11/25/97 17:27	0.305	0.23	9.52	7.13	32.4	3.7	- 38.7	0.466
11/26/97 14:01	0.295	0.22	8.67	7.17	38.5	4.48	-35.8	0.453
11/28/97 15:00	0.291	0.2	9.49	7.21	21.6	2.45	-7	0.45
11/30/97 17:45	0.303	0.23	4.19	7.21	8.3	0.95	-20.4	0.466
12/2/97 12:05	0.284	0.21	8.45	7.17	6.5	0.77	-49	0.438
12/4/97 13:22	0.299	0.22	9.73	7.2	4.6	0.53	-42.9	0.461
12/13/97 13:37	0.429	0.32	5.38	7.04	12.1**	1.52**	-4.6**	0.661

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2F

Test Location SS06 Groundwater Monitoring Well MP2F

	Total							Specific
	Dissolved						ļ	Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 14:35	0.364*	0.28*	6.49	7.1	3.6	0.42	-125.5	0.56
11/17/97 14:30	0.349*	0.27	7.96	7.1	3.2	0.37	-111.9	0.538
11/18/97 14:21	0.342*	0.26	8.43	7.18	3.2	0.37	-58.6	0.526
11/19/97 17:14	0.348	0.26	8.62	7.1	4.8	0.56	-59.9	0.536
11/20/97 17:05	0.341	0.25	7.82	7.15	5.1	0.61	-100.3	0.527
11/21/97 13:05	0.337	0.25	7.58	7.09	5.7	0.68	-102.3	0.519
11/22/97 14:46	0.336	0.25	6.66	7.05**	34.7**	4.24**	-46.8**	0.517
11/23/97 14:52	0.306	0.23	4	7.14	5.5	0.71	-74.7	0.47
11/24/97 14:47	0.292	0.222	7.78	7.15	6.2	0.74	-65.6	0.449
11/25/97 17:48	0.285	0.21	8.55	7.18	6.1	0.71	-44.9	0.437
11/26/97 14:24	0.288	0.21	8.61	7.21	15.9	1.85	-47	0.442
11/28/97 15:50	0.29	0.22	9.31	7.25	8.7	0.99	-18.7	0.447
11/30/97 18:00	0.297	0.22	8.63	7.24	3.6	0.42	-20.6	0.457
12/2/97 12:51	0.294	0.22	8.43	7.19	4.1	0.48	-66.2	0.453
12/4/97 14:17	0.305	0.23	9.85	7.24	3.6	0.41	-59.9	0.466
12/13/97 14:11	0.314	0.23	5.27	7.24	7.4**	0.93**	-25.2**	0.482

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3D

Test Location SS06
Groundwater Monitoring Well MP3D

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 13:10	0.567*	0.45*	10.83	6.46	5.2	0.58	-79.8	0.871*
11/17/97 15:34	0.562*	0.44*	9.56	6.52	5.7	0.66	-58	0.865*
11/18/97 15:20	0.531*	0.41*	9.31	6.62	4.8	0.55	-43.4	0.818*
11/19/97 18:03	0.718	0.55	9.3	6.43	8.1	0.93	-27.6	1.104
11/20/97 18:39	0.579	0.44	9.09	6.91	7.7	0.89	-84.1	0.89
11/21/97 13:34	0.382	0.29	8.15	7.11	5.8	0.68	-87.4	0.588
11/22/97 15:49	0.308	0.23	7.23	7.21	8.7	1.05	-65.7	0.471
11/23/97 15:29	0.293	0.22	5.34	7.41	31.1	3.91	-31.6	0.453
10/24/97 15:18	0.328	0.24	8.71	7.43	17.5	2.03	-10.5	0.504
11/25/97 18:08	0.293	0.22	9.32	7.2	5.9	0.68	-29.4	0.452
11/26/97 14:51	0.284	0.21	9.41	7.25	17.5	2	-16.4	0.439
11/28/97 16:10	0.318	0.24	9.56	7.21	7.8	0.89	-16.7	0.491
11/30/97 18:15	0.353	0.26	9.41	7.18	3.6	0.41	-18.6	0.542
12/2/97 14:23	0.361	0.27	8.77	7.07	4.8	0.54	- 51.5	0.556
12/13/97 14:36	0.628	0.48	5.39	6.89	10.7**	1.35**	-13.7**	0.966

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3E

Test Location SS06
Groundwater Monitoring Weil MP3E

	Total Dissolved							Specific
Time	Solids (g/L)	Salinity	Temp (C)	Hq	DO (%)	DO (mg/L)	ORP (mv)	Conductance (mS)
11/14/97 12:48	(g. 2)	- Cum ney	9.85	6.84	3.2	0.37	-68.6	0.654*
11/17/97 16:40	0.437*	0.67*	9.03	6.91	4	0.46	-92.6	0.673*
11/18/97 15:42	0.437*	0.64*	8.83	6.97	3.6	0.42	-65.2	0.673*
11/19/97 16:32	0.408	0.31	9.68	6.83	23.7	2.69	-10.4	0.627
11/20/97 19:02	0.396	0.3	8.87	6.92	47.2	5.45	-0.9	0.61
11/21/97 14:11	0.404	0.3	7.1	6.88	34.8	4.19	-17.1	0.622
11/22/97 16:36	0.37	0.28	6.36	6.99	26.1	3.22	-33.7	0.576
11/23/97 15:48	0.371	0.28	4.22	6.95	40.5	5.28	32.2	0.574
11/24/97 16:10	0.345	0.26	6.56	6.98	50.2	6.16	3.6	0.533
11/25/97 18:37	0.344	0.26	8.86	6.95	8.7	1.01	-49.5	0.528
11/26/97 15:25	0.35	0.26	8.8	6.97	16.9	1.97	-58.9	0.539
11/28/97 17:20	0.347	0.26	8.86	7.05	8.3	0.97	-43	0.535
11/30/97 18:30	0.418	0.31	9	7.06	4.3	0.5	-66.8	0.642
12/2/97 18:50	0.468	0.35	8.06	6.97	6.1	0.68	-92.1	0.72
12/13/97 15:00	0.429	0.32	7.53	6.93	11.4**	1.36**	-29.7**	0.662

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4D

Test Location SS06 Groundwater Monitoring Well MP4D

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 17:15	0.836*	0.66*	9.48	6.55	5.3	0.65	-76.3	1.29*
11/17/97 17:20	0.619*	0.49*	9.66	6.58	5.5	0.67	-67.5	0.953*
11/18/97 16:25	0.608*	0.48*	8.84	6.64	5.3	0.62	-40	0.94*
11/19/97 19:00	0.662	0.51	9.89	6.56	7	0.8	-33	1.022
11/20/97 19:25	0.394**	0.3**	7.44**	7.92**	106.5**	12.8**	-73.7**	0.606**
11/21/97 14:53	0.604	0.46	7.42	6.6	7.7	0.92	-56.3	0.932
11/22/97 17:08	0.396**	0.3**	5.79**	6.87**	11.9**	1.45**	-52.4**	0.615**
11/24/97 16:45	0.614	0.47	7.19	6.69	8.7	1.05	-37.9	0.945
11/25/97 21:58	0.58	0.44	9.25	6.81	9.8	1.13	-40	0.896
11/26/97 16:25	0.602	0.46	8.19	6.67	20.5	2.45	-33.9	0.925
11/28/97 17:50	0.623	0.48	9.6	6.64	15.8	1.8	-19.7	0.959
11/30/97 18:55	0.644	0.49	9.84	6.63	4.8	0.54	-20.1	0.991
12/2/97 17:23	0.635	0.49	8.6	6.51	5.3	0.61	-30.5	0.979
12/13/97 15:28	0.711	0.54	5.55	6.61	15.1**	1.88**	-2**	1.094

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4E

Test Location SS06 Groundwater Monitoring Well MP4E

	Total							Specific
_	Dissolved		_					Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 16:52	0.536*	0.42*	9.01	6.82	4.9	0.59	-95.2	1.554*
11/17/97 17:50	0.422*	0.33*	8.5	6.81	4	0.46	-87.5	1.257*
11/18/97 17:07	0.43*	0.33*	8.08	6.88	3.7	0.43	-72.8	1.249*
11/19/97 19:30	0.43	0.32	9.37	6.81	5.2	0.59	-61.3	0.662
11/20/97 19:48	0.388**	0.29**	5.61**	8.34**	110.6**	13.89**	15.1**	0.596**
11/21/97 15:35	0.412	0.31	6.5	6.8	5.6	0.68	-80.6	0.634
11/22/97 17:45	0.553**	0.42**	6.55	6.78	7.4	0.9	-45.9	0.857**
11/24/97 17:26	0.395	0.3	6.95	6.82	7	0.85	-67.8	0.611
11/25/97 10:19	0.396	0.3	8.61	6.86	8.3	0.96	-71.4	0.608
11/26/97 16:50	0.401	0.3	8.27	6.83	18.7	2.19	-67.5	0.617
11/28/97 18:15	0.389	0.29	8.62	6.87	12.7	1.48	-55.6	0.599
11/30/97 19:10	0.392	0.29	8.9	6.87	3.7	0.43	-67	0.604
12/2/97 17:45	0.383	0.29	7.77	6.81	4.3	0.51	-83.6	0.588
12/13/97 15:57	0.511	0.39	6.44	6.76	19.3**	1.58**	-35.6**	0.786

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5D

Test Location SS06 Groundwater Monitoring Well MP5D

	Total Dissolved							Specific Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 17:40	0.610*	0.9*	8.63	6.63	6.46	0.78	-66.4	.941*
11/17/97 19:03	0.806*	1.2*	6.84	6.51	5.8	0.7	-35.2	1.240*
11/18/97 17:49	0.751*	1.12*	9.68	6.56	5.4	0.62	-43.1	1.155*
11/19/97 19:59	0.773	0.6	10.31	6.49	7.4	0.84	-33.3	1.189
11/20/97 20:15	0.385**	0.29**	4.15**	8.47**	110.7**	14.43**	39.3**	0.591**
11/21/97 16:25	0.809	0.62	6.55	6.48	7.5	0.92	-45.2	1.241
11/22/97 18:09	0.562**	0.41**	5.05**	7.57**	112.5**	11.1**	-106.2**	**0.882
11/24/97 18:14	0.834	0.64	8.22	6.5	10.7	1.26	-40.4	1.281
11/25/97 22:47	0.792	0.61	9.2	6.51	11.4	1.3	-43.6	1.22
11/26/97 17:15	0.804	0.62	9	6.51	35.3	4.06	-34.5	1.236
11/28/97 18:30	0.801	0.62	4.6	6.52	19.1	2.16	-36.2	1.235
11/30/97 19:35	0.836	0.65	9.8	6.52	5.1	0.58	-38.2	1.287
12/2/97 18:11	0.787	0.61	9.04	6.45	6.2	0.72	-47.2	1.214
12/13/97 16:17	0.851	0.66	6.26	6.5	16.5**	2.03**	-14.8**	1.323

^{*} Data corrected based on a calibration error.

^{**} Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING SITE SS06 GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5E

Test Location SS06 Groundwater Monitoring Well MP 5-E

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/14/97 15:55	0.433*	0.33*	8.75	6.82	0.58		-104.6	0.666*
11/17/97 16:22	0.540*	0.44*	8.55	6.79	0.51		-87.3	0.829*
11/18/97 18:25	0.543*	0.42*	7.57	6.87	4.3	0.51	-63.5	0.837*
11/19/97 20:32	0.529	0.4	8.26	6.82	5.4	0.64	-54.6	0.813
11/20/97 20:37	0.529	0.4	8.88	6.92	34.1	3.89**	-83.3	0.817
11/21/97 17:00	0.546	0.41	5.21	6.79	5.6	0.71	-72.4	0.839
11/22/97 18:36	0.409**	0.39**	5.22**	7.15**	34.6**	4.59**	-35.8**	0.639**
11/24/97 18:59	0.55	0.42	6.86	6.8	8.4	1.03	-59.4	0.846
11/25/97 23:15	0.563	0.43	8.38	6.79	9.8	1.15	-67.8	0.865
11/26/97 17:40	0.572	0.43	8.18	6.77	37	4.35	-52.3	0.888
11/28/97 19:00	0.581	0.44	7.99	6.79	15.9	1.88	-54.5	0.894
11/30/97 19:45	0.603	0.46	8.47	6.78	4.3	0.5	-63.3	0.926
12/2/97 18:38	0.564	0.43	8.11	6.73	4.9	0.58	-73.1	0.872
12/13/97 16:39	0.71	0.54	5.13	6.69	14.7**	1.85**	-28.2**	1.091

^{*} Data corrected based on a calibration error.

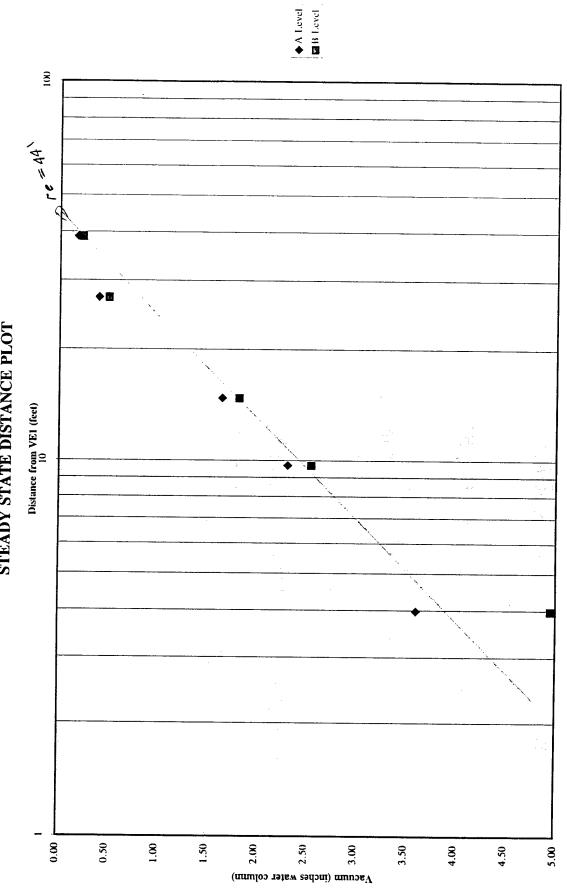
^{**} Data not used in plots due to data collection error.

APPENDIX C PILOT TEST DATA AND ANALYSES FOR SITE SS-08A

WURTSMITH AFB PILOT TESTING SITE SS08A STEADY STATE SOIL PERMEABILITY CALCULATIONS EFFECTIVE RADIUS METHOD

	n or b	n or b P _{aun}	ð	P _{aun} -P*	aun-P* Paun-P r	L	r _o	ュ	Air temp. k _a	k _a	k _a	X.	K _w K _w	X *
SS08Aeq1	(ft)	(psi) (scfm)	(scfm)	(in. H ₂ O)	n. H_2O (ft H_2O) (ft)	(ff)	(f)	(ft) (kg/m, sec)	°F	(m ²)		(darcies) (cm/sec)	(cm/sec) (ft/day)	(ft/day)
MP1	11.92	11.92 14.17	152	19.2	8.12	5.11 54	54	1.76E-05	46	6.20E-11	62.8	3.47	0.05	149.92
MP2	12.29	12.29 14.17	152	19.2	6.01	10.25 54	54	1.76E-05	46	5.71E-11	57.8	3.20	0.05	138.08
MP3	12.4	12.4 14.17	152	19.2	3.92	15.64 54	54	1.76E-05	46	6.45E-11	65.3	3.62	90.0	156.05
MP4	12.58	12.58 14.17	152	19.2	1.78	24.27	54	1.78 24.27 54 1.76E-05	46	9.01E-11	91.3	5.05	0.08	218.03
MP5	12.79	12.79 14.17	152	19.2	1.35	40.6	54	40.6 54 1.76E-05	46	4.17E-11	42.2	2.34	0.04	100.79





WURTSMITH AFB PILOT TESTING SITE SSO8A STEADY STATE SOIL PERMEABILITY CALCULATIONS TWO WELL METHOD

Observation Well Steady	Steady State	Steady State	ľ	Γ_2	rı r ₂ P _{atm} -P*	ở	 1	, K	Ka	K	K
	Vacuum at	Vacuum at									:
Pair	Well 1	Well 2	(ft)	(ft)	(ft) (in. H ₂ O) (scfm)	(scfm)	(kg/m, sec)	(darcies) (cm/sec)	(cm/sec)	(cm/sec)	(ft/day)
MP1-MP2	8.12	6.01	5.11	10.25	19.2	152.00	1.76E-05	70.8	3.92	5.96E-02	1.69E + 02
MP1-MP3	8.12	3.92	5.11	15.64	19.2	152.00	1.76E-05	35.2	1.95	2.96E-02	2.96E-02 8.40E+01
MP1-MP4	8.12	1.78	5.11	24.27	19.2	152.00	1.76E-05	51.6	2.86	4.35E-02	4.35E-02 1.23E+02
MP1-MP5	8.12	1.35	5.11	40.6	19.2	152.00	1.76E-05	63.7	3.53	5.37E-02	5.37E-02 1.52E+02
MP2-MP3	6.01	3.92	10.25	15.64	19.2	152.00	1.76E-05	42.3	2.34	3.56E-02	1.01E+02
MP2-MP4	6.01	1.78	10.25	10.25 24.27	19.2	152.00	1.76E-05	42.2	2.34	3.56E-02	3.56E-02 1.01E+02
MP2-MP5	6.01	1.35	10.25	9.04	19.2	152.00	1.76E-05	60.7	3.36	5.12E-02	1.45E+02
MP3-MP4	3.92	1.78	15.64	15.64 24.27	19.2	152.00	1.76E-05	42.2	2.34	3.56E-02	1.01E+02
MP3-MP5	3.92	1.35	15.64	40.6	19.2	152.00	1.76E-05	76.3	4.22	6.43E-02	1.82E+02
MP4-MP5	1.78	1.35	24.27	40.6	19.2	152.00	152.00 1.76E-05	241.5	13.37	2.03E-01	2.03E-01 5.77E+02

STEADY STATE SOIL PERMEABILITY CALCULATIONS PSEUDO STEADY STATE METHOD

K _w	(66/4920)	(II/ūay)	1.47	1.18	1.08	1.33	0.89	0.89	1.42	0.89	1.61	5.10
K _w	(000/000)	(cm/sec)	5.20E-04	4.16E-04	3.81E-04	4.71E-04	3.12E-04	3.13E-04	4.99E-04	3.13E-04	5.67E-04	1.80E-03
Ka	(000) 000)	(cm/sec)	0.62	0.49	0.45	0.56	0.37	0.37	0.59	0.37	0.67	2.13
ka	(45,000	(darcies)	11.13	8.92	8.16	10.09	69.9	6.70	10.70	6.72	12.14	38.54
ka	2,	(m)	1.10E-11	8.80E-12	8.06E-12	9.96E-12	6.61E-12	6.62E-12	1.06E-11	6.63E-12	1.20E-11	3.81E-11
1		(kg/m,sec)	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05
Ŷ	3,	(mr/min)	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
r ₂		(m)	3.12	4.77	7.40	12.37	4.77	7.40	12.37	7.40	12.37	12.37
I.	`	(m)	1.56	1.56	1.56	1.56	3.12	3.12	3.12	4.77	4.77	7.40
Steady State	Vacuum at	Well 2	6.01	3.92	1.78	1.35	3.92	1.78	1.35	1.78	1.35	1.35
Observation Steady State Steady State	Vacuum at	Well I	8.12	8.12	8.12	8.12	6.01	6.01	6.01	3.92	3.92	1.78
Observation	Well Pair		MP1-MP2	MP1-MP3	MP1-MP4	MP1-MP5	MP2-MP3	MP2-MP4	MP2-MP5	MP3-MP4	MP3-MP5	MP4-MP5

TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES WURTSMITH AFB PILOT TESTING SITE SS08A

				Vacuum Time	Time				Κw		K'w
Well	W(u,r/B)	1/u	r/B	(in H2O)	(min)	r (ft)	ka (darcies)	ka (darcies) Kw (cm/sec)	(ft/day)	na	(cm/sec)
MP1A	1	1	0.62	3.10	0.19	5.11	34.90	2.94E-02	83.3	3.5	5.49E-03
MP1B	1	1	0.62	9.60	0.12	5.11	19.30	1.63E-02	46.1	1.24	3.04E-03
MP2A	-	7	0.62	4.90	0.11	10.25	22.10	1.86E-02	52.7	0.32	8.36E-04
MP2B	-	1	0.87	00.9	0.22	10.25	18.00	1.52E-02	43	0.52	1.39E-03
MP3B	1	1	1.13	6.10	0.41	15.64	17.71	1.49E-02	42.3	0.42	9.89E-04
MP4A	1	1	1.39	2.90	1.01	24.27	37.30	3.14E-02	89	0.89	1.31E-03
MP4B	1	1	1.13	2.90	0.47	24.27	37.30	3.14E-02	89	0.42	8.64E-04

Vapor extraction rate = 152 scfm u=1.8E-5 kg/m sec^2 Patm = 14.35 psi m = 12.69 ft

STEADY STATE SOIL PERMEABILITY CALCULATIONS EFFECTIVE RADIUS METHOD

Steady State Solution for One Dimensional Radial Flow

Soil Vapor Extraction Pilot Testing

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1

Assume:

Steady state conditions (u < 0.01)

One dimensional flow

Equation:

$$k_a = Q_v P^* \mu$$
 $\ln(r_e/r)$
pi b $P^2 - P_{atm}^2$

where:

 $Q_v = volumetric flow rate (L^3/T)$

P* = absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)

P = absolute pressure at the observation well. (M/LT^2)
P_{atm} = atmosphere pressure (absolute) dury test (M/LT^2)

 μ = dynamic viscosity of soil gas (M/LT)

pi = 3.1415926

b = Aquifer thickness (L)

r_e = radius of pressure influence (L)

r = Distance from VE1 to observation well (L)

 $k_a =$ apparent air permeability (L^2)

Input:

at 46F

$$Q_v = 152.00 \text{ scfm} = 0.071731 \text{ m}^3/\text{sec}$$
 $P_{\text{atm}} = 28.86 \text{ in Hg} = 97714.63 \text{ kg/m sec}^2$
 $P^*\text{diff} = 19.20 \text{ in H}_20 = 4780.67 \text{ kg/m sec}^2$
 $\mu = 1.76\text{E}-05 \text{ kg/m sec}$
 $b = 11.92 \text{ feet} = 3.633216 \text{ m}$
 $r_e = 54 \text{ feet} = 16.4592 \text{ m}$

 $r_e = 54 \text{ feet} = 16.4592 \text{ m}$ r = 5.11 feet = 1.557528 m

P diff = 8.12 in H2O = $2021.825 \text{ kg/m sec}^2$

Calculated:

 $P^* = 92933.96 \text{ kg/m sec}^2$ $P = 95692.8 \text{ kg/m sec}^2$

 $k_a = 6.2E-11 \text{ m}^2 = 62.75398 \text{ darcies}$

K_a = 3.474688 cm/sec

 $K_w = 5.29E-02 \text{ cm/sec} = 149.9227 \text{ ft/day}$

STEADY STATE SOIL PERMEABILITY CALCULATIONS TWO WELL STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow

Soil Vapor Extraction Pilot Testing

Assume:

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Steady state conditions (u < 0.01)

One dimensional flow

Equation: $k_a = \frac{Q_y P^* \mu}{pi b} \frac{\ln(r_2/r_1)}{P_2^2 - P_1^2}$

where: $Q_v = volumetric flow rate (L^3/T)$

P* = absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)

 μ = dynamic viscosity of soil gas (M/LT)

pi = 3.1415926

b = Aquifer thickness (L)

 $r_1 =$ distance to observation well no. 1 (L)

 $r_2 =$ distance to observation well no. 2 (L)

 P_1 = absolute pressure at well no. 1 (M/LT^2)

P₂ = absolute pressure at well no. 2 (M/LT²)

 $k_a =$ apparent air permeability (L^2)

0.071731 m³/sec 152.00 scfm $Q_v =$ Input: 97714.63 kg/m sec² P_{atm} = 28.86 in Hg = 4780.67 kg/m sec² P*diff = 19.20 in H20 = 1.76E-05 kg/m sec at 46F μ= 3.689604 m 12.105 feet = b = 5.11 feet = 1.557528 m $r_1 =$ 10.25 feet 3.1242 m =

 $r_2 = 10.25 \text{ feet} = 3.1242 \text{ m}$ $P_1 \text{ diff} = 8.12 \text{ in } H_2 \text{O} = 2021.825 \text{ kg/m sec}^2$

 $P_2 \text{ diff} = 6.01 \text{ in } H_2 \text{O} = 1496.449 \text{ kg/m sec}^2$

Calculated: $P^* = 92933.96 \text{ kg/m sec}^2$

 $P_1 = 95692.8 \text{ kg/m sec}^2$

 $P_2 = 96218.18 \text{ kg/m sec}^2$

 $k_a = 6.99E-11 \text{ m}^2 = 70.75443 \text{ darcies}$

 $K_a = 3.917673 \text{ cm/sec}$

 $K_w = 5.96E-02 \text{ cm/sec} = 169.0362 \text{ ft/day}$

STEADY STATE SOIL PERMEABILITY CALCULATIONS PSEUDO STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow Soil Vapor Extraction Pilot Testing

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2 MP1-MP2

Assume:

steady state conditions

One dimensional flow

Equation:

$$k_a = Q_y \mu \ln(r_2/r_1)$$

4 pi b $P_2 - P_1$

where:

 $Q_v =$ volumetric flow rate (L^3/T)

dynamic viscosity of soil gas (M/LT) $\mu =$

= iq3.1415926

b = Aquifer thickness (L)

 $r_1 =$ distance to observation well no. 1 (L)

r₂ = distance to observation well no. 2 (L)

 $P_1 =$ absolute pressure at well no. 1 (M/LT^2)

 $P_2 =$ absolute pressure at well no. 2 (M/LT^2)

k_a = apparent air permeability (L^2)

Input:

$$Q_v = 152.00 \text{ scfm} = 0.071731 \text{ m}^3/\text{sec}$$

 $P_{atm} = 28.86 \text{ in Hg} = 97714.63 \text{ kg/m sec}^2$

Temp (F)

46

 $\mu =$ 1.76E-05 kg/m sec

12.105 feet b = 3.689604 m = $r_1 =$ 5.11 feet = 1.557528 m 10.25 feet $\mathbf{r}_2 =$ = 3.1242 m

P₁diff = 8.12 in H₂O = 2021.825 kg/m sec²

P2 diff = 6.01 in H₂O 1496.449 kg/m sec²

Calculated:

 $P_1 = 95692.8 \text{ kg/m sec}^2$

 $P_2 = 96218.18 \text{ kg/m sec}^2$

 $k_a = 1.1E-11 \text{ m}^2$ 11.13439 darcies

 $K_a = 0.616511$ cm/sec

 $K_{w} = 9.38E-03 \text{ cm/sec}$ 26.60067 ft/day

TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Transient Solution for One Dimensional Radial Flow Soil Vapor Extraction Pilot Testing Well MP1A

Assume:

One dimensional flow

Equations:

ka = Qv u 4 pi b

W(u/B) (P - Patm) na = 4 ka (P-Patm) t u r^2 u

 $B^2 = Krmm'$

K'

where:

 $Qv = volumetric flow rate (L^3/T)$

P-Patm = guage vacuum obtained at match point (H2O")

u = dynamic viscosity of soil gas (M/LT)

pi = 3.1415926

b = vadose zone thickness (L)

(u, r/B) = leaky well function (obtained from type curve match point)

1/u = obtained from match point on type curve t = time obtained from type curve match point

Patm = absolute atmospheric pressure ka = apparent air permeability (L^2) $Kr = vadose zone conductivity (L^2/T)$ $K' = surface seal conductivity (L^2/T)$

r/B = type curve value

m = vadose zone thickness (L) m' = surface seal thickness (L)

Input:

Qv =152 scfm 0.071731 m^3/sec

(P-Patm)= 3.1 in H20 u = 1.80E-05 kg/m sec

b = 12.69 feet 771.9 kg/m sec^2

W(u,r/B) =

1

3.867912 m

u=

r/B =0.62 (from matching curve)

0.19 minutes 11.4 seconds t = 14.35 psi = Patm = 98907.38 kg/msec^2

5.11 feet = 1.55855 m Γ= 1 feet = 0.305 m m' =

Calculated:

 $ka = 3.44E-11 \text{ m}^2$ 34.86 darcies

1.93 cm/sec Ka =

Kw = 2.94E-02 cm/sec = 83.27 ft/day

na = 3.549843

8.24 B =

K' = 5.49E-03 cm/sec15.56 ft/day

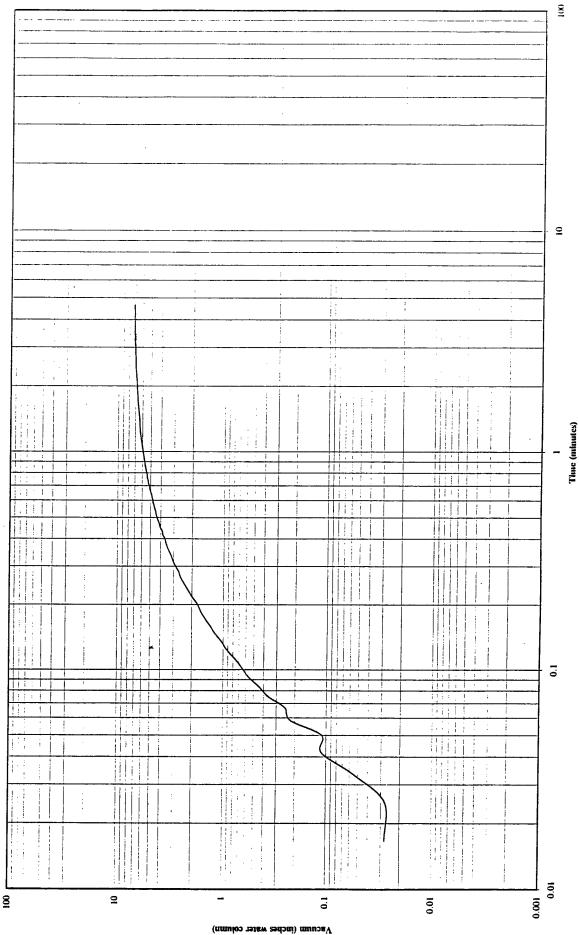
3 9 SITE SS08A WELL MPIA TRANSIENT DATA Time (minutes) TIT ПП HIT IIII 11:11 111:1 ł 0.1 111 IIIII 11 1 11. 1111 0.0 8 2 0.01 0.001 - Vacuum (inches water column)

p:\proj\wn:smith\sxX8\pijoses\sxX8\pisos

3 2 WELL MPIB TRANSIENT DATA SITE SS08A 0.1 0.01 0.00 0.01 8 2 0.7 Vacuum (inches water column)

Time (minutes)

WELL MP2A TRANSIENT DATA SITE SS08A 8

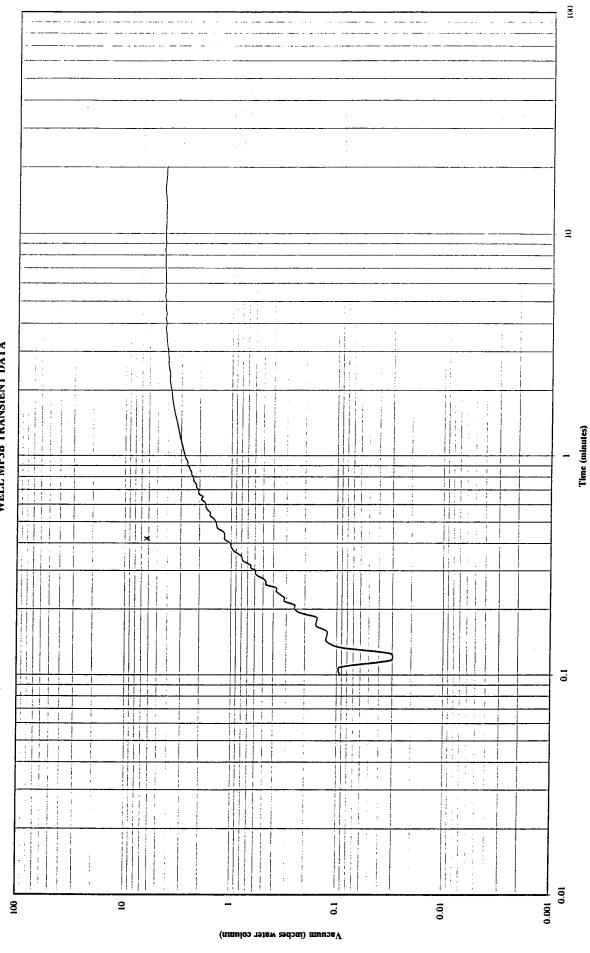


3 2 WELL MP2B TRANSIENT DATA SITE SS08A 11111 0. 0.00 0.01 2 0. 8 Vacuum (inches water column)

and the contract of the state o

Time (minutes)

WURTSMITH AFB PILOT TESTING WELL MP3B TRANSIENT DATA SITE SS08A



3 9 WURTSMITH AFB PILOT TESTING SITE SSORA WELL MP4A TRANSIENT DATA Time (minutes) Hill 9 111 $\Pi\Pi$ 11 1 0.0 0.00 0.01 8 2 0.1 Vacuum (inches water column)

3 2 WELL MP4B TRANSIENT DATA SITE SS08A Time (minutes) 0.1 0.01 8 2 0.001 0.01 Vacuum (inches water column)

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VACUUM EXTRACTION STEP TEST

November 25, 1997

STEP TEST (UP)

	MP6	
	Vacuum	Flow Rate
TIME	(in H20)	(scfm)
	Start Step	
16:51	3.10	
16:56	3.00	
17:00	3.00	29.30
17:02	5.00	
17:03	5.10	44.80
17:05	5.00	42.90
17:07	5.10	43.30
17:09	7.50	
17:11	7.50	
17:13		
17:15		
17:17		61.00
17:18		
17:19		79.50
17:21	10.10	79.90
17:23	12.50	
17:24	12.50	98.40
17:25	12.50	98.30
17:27		98.30
17:28		120.10
17:36		
17:37	15.10	119.60 118.90
17:39 17:40		110.90
17:40		139.20
17:45		136.90
17:47		
17:49	17.50	134.80
17:50		15 7.50
17:52	20.00	153.10
17:54	20.00	152.00
17:57	20.00	152.10
17:59	20.00	152.10
18:00		
18:03	22.50	170.30
18:05		169.80
18:07		170.00

STEP TEST (DOWN)

SIEP	1F21 (DC) VY [N)
	MP6	
	Vacuum	Flow Rate
TIME	(in H20)	(scfm)
18:12	20.00	
18:15	20.00	
18:17	20.00	
18:19	20.00	
18:21	20.00	
18:22	17.50	
18:24	17.50	
18:26	17.50	
18:28	17.50	
18:30		
18:32		
18:33		
18:35		
18:37		
18:43	16.00	
18:44		
18:47	12.50	95.00
18:49	12.50	95.00
18:51	12.50	95.00
18:52	10.00	
18:54	10.00	
18:56	10.00	
18:59	10.00	
19:00	7.50	
19:01	7.50	
19:03	7.50	
19:05	7.50	57.70
19:06	5.00	
19:08	5.00	
19:10	5.00	
19:12	5.00	
19:13	2.50	
19:14		
19:16	2.50	
19.18	2.50	20.70

End of Step Test

VACUUM EXTRACTION STEP TEST

November 25, 1997

STEP TEST (UP)

	MP6	
	Vacuum	Flow Rate
TIME	(in H20)	
16:45	Start Step	
16:51	3.10	
16:56	3.00	
17:00	3.00	
17:02	5.00	
17:03	5.10	44.80
17:05	5.00	42.90
17:07	5.10	43.30
17:09	7.50	
17:11	7.50	63.90
17:13		
17:15	7.50	61.00
17:17	7.50	61.00
17:18	10.00	
17:19	10.00	79.50
17:21	10.10	79.90
17:23	12.50	
17:24	12.50	98.40
17:25	12.50	98.30
17:27	12.50	98.30
17:28	15.00	
17:36	15.10	120.40
17:37	15.10	119.60
17:39	15.10	118.90
17:40	17.50	
17:43	17.50	139.20
17:45	17.50	136.90
17:47	17.50	134.70
17:49	17.50	134.80
17:50	20.00	
17:52	20.00	153.10
17:54	20.00	152.00
17:57	20.00	152.10
17:59	20.00	152.10
18:00	22.50	
18:03	22.50	170.30
18:05	22.50	169.80
18:07	22.50	170.00

STEP TEST (DOWN)

SIEP		J W N)
	MP6	
	Vacuum	Flow Rate
TIME	(in H20)	(scfm)
18:12	20.00	
18:15	20.00	148.10
18:17	20.00	150.10
18:19	20.00	149.70
18:21	20.00	149.70
18:22		
18:24	17.50	128.50
18:26		131.20
18:28	17.50	131.60
18:30	17.50	131.20
18:32	15.00	
18:33	15.00	110.20
18:35	15.00	114.50
18:37	15.00	113.70
18:43	16.00	113.40
18:44	12.50	
18:47	12.50	95.00
18:49	12.50	95.00
18:51	12.50	95.00
18:52	10.00	
18:54	10.00	77.00
18:56	10.00	76.80
18:59	10.00	76.00
19:00	7.50	
19:01	7.50	55.40
19:03	7.50	57.70
19:05	7.50	57.70
19:06	5.00	
19:08	5.00	37.10
19:10	5.00	38.00
19:12	5.00	37.10
19:13	2.50	
19:14	2.50	22.30
19:16	2.50	20.70
19.18	2.50	20.70

End of Step Test

APPENDIX D PILOT TEST DATA AND ANALYSES FOR SITE SS-08B

WURTSMITH AFB PILOT TESTING

SOIL VAPOR EXTRACTION/AIR SPARGING SYSTEM DATA

Date	12/2/97	12/2/97	12/3/97	12/3/97	12/4/97	12/4/97	12/5/97	12/5/97	12/5/97	12/6/97	12/7/97	12/7/97	12/8/97	12/8/97	12/9/97	12/9/97	12/10/97	12/10/97	12/11/97	12/11/97
Time	2145	2215	822	1410	1910	1125	1945	835	0191	1240	1030	1530	1000	1600	930	1500	1030	1600	1700	2300
MP1A ("H2IO)	3.62	3.61	3.53	3.50	3.60	3.52		3.22	3.21	2.74	1.39	1.21	1.84	1.81	1.81	1.72	1.68	1.67	1.67	1.64
MP1B ("H2O)	5.19	90.9	4.89	4.88	4.95	4.81		3.61	3.66	1.68	1.40	1.30	2.42	2.32	2.34	16.1	1.82	1.84	16.1	1.91
MP2A ("H2O)	2.23	2.19	2.14	21.80	2.30	2.17		16.1	1.99	1.05	0.76	0.79	1.47	1.09	1.12	1.07	1.04	1.02	1.04	1.04
MP2B ("H2O)	2.72	2.63	2.55	2.59	2.54	2.50		2.23	2.29	1.25	0.88	0.89	1.38	1.89	1.32	1.23	1.22	1.22	1.23	1.22
MP3A ("H2O)	1.64	1.54	1.51	1.55	1.64	1.51		1.30	1.39	0.75	09.0	0.54	0.84	0.81	0.78	0.73	0.72	0.71	0.75	0.71
MP3B ("H2O)	1.82	1.71	1.67	1.70	18.1	1.69		1.49	1.48	0.78	99.0	0.58	0.93	0.89	0.87	0.81	0.79	0.79	0.83	0.75
MP4A ("H2O)	0.46	0.37	0.33	0.36	0.40	0.39		0.30	0.29	0.13	01.0	0.13	0.17	0.18	0.18	0.10	0.12	0.12	0.16	01.0
MP4B ("H2O)	0.55	0.46	0.41	0.45	0.50	0.46		0.37	0.36	0.15	0.13	0.16	0.21	0.23	0.23	0.12	0.16	91.0	0.21	0.15
MP5A ("H2O)	0.16	0.15	0.11	0.17	0.18	0.16		0.13	0.11	0.03	60.0	90.0	0.10	60.0	0.07	0.03	0.05	0.04	0.11	0.05
MP5B ("H2O)	0.21	0.20	91.0	0.20	0.23	0.19		0.18	0.15	0.07	0.10	80.0	0.12	0.11	60.0	80.0	0.07	90.0	0.14	0.70
MP6 ("H2O)	13.50	13.78	13.90	13.99	14.14	14.10	14.19	14.02	13.98	7.95	6.04	5.79	7.90	7.85	7.80	7.80	7.70	7.62	7.64	7.66
VE1 ("H2O)	15.54	15.90	15.98	16.15	16.30		16.44	16.22	16.22	16.8	08.9	09.9	8.87	8.84	8.85	8.79	8.70	8.67	8.65	89.8
Blower Vacuum ("H2O)	30*	30*	29.40	30.30	29.90	30.40	30.00	30.12	30.20	13.83	10.31	9.03	13.36	13.30	13.36	13.17	13.10	13.17	13.13	13.24
SVE Flow Rate (scfm)	175.10	174.75	173.59	172.83	171.17	171.14	170.96	171.74	16.071	105.21	92.33	86.98	105.39	108.61	105.96	105.92	109.23	107.41	108.11	19.601
Blower Pressure ("H2O)			11.40	10.52	10.53	10.45	10.43	10.45	10.95	4.45	3.40	2.81	4.50	4.52	4.50	4.42	4.45	4.45	4.47	4.46
Carbon Pressure ("H20)	10.30	10.15	10.15	10.02	10.15	6.62	6.62	6.62	9.62	3.95	3.09	4.15	4.05	4.17	4.10	4.10	4.12	4.15	4.17	4.20
Sparge Pressure (psi)							12.3	7.8	7.0	8.7	2.6	10.0	13*	13.5*	*41	*41	*07	23*	>30*	>30*
Sparge He %							1.90	1.80	1.80	1.60	1.80	1.80	1.80	1.80	1.80	1.80	1.60	1.60	1.70	2.10
VE Blower Temp (F)			29.0	30.0	29.0	29.0	29.0	27.5												
Sparge Temp (F)							128	124	114	110	112	120	120	120	114	122	112	112	120	811
Extracted Vapor Temp (F)	45.0	45.0	45.0	45.0	44.0	43.5		-	42.8	42.8	41.0	41.0	42.8	42.8	41.0	41.0	42.8	42.8	64.4*	*65
Sparge Flow Rate (cfm)							15.00	-		15.50	15.50	15.00	14.50	15.00	15.00	15.00	15.00	15.00	13.00	13.00
Helium Flow Rate (units)							130.00	130.00	130.00	128.00	125.00	125.00	130.00	130.00	130.00	130.00	130.00	130.00	140.00	135.00
SF6 Flow Rate (units)							40.00	40.00	40.00	40.00	40.00	11.00	38.00	38.00	37.00	25.00	40.00	40.00	80.00	80.00
Helium Pressure (psi)									400.00	2200.00	750.00	00.009	1300.00	1100.00	500.00	400.00	1700.00	1500.00	750.00	550.00
SF6 Pressure (psi)									150.00	145.00	40.00	0.00	150.00	180.00	180.00	00:061	180.00	175.00	120 psi	110.00
Sparge On Pulse							10	10	10	10	10	5	5	5	5	5	5	5	5	5
Sparge Off Pulse							0	0	0	0	0	5	2	5	2	5	5	5	5	5
Pre-Carbon PID (ppm)	3.30	3.40	0-1-0	1.0-3.2	~ 1.0	-	1.60	1.20												
Post-Carbon PID (ppm)	0.00	0.00	0.00	0.00	0.00		0.00	0.00												
Ambient Temperature								30° F	30° F	30° F	25° F		30° F	35° F	28° F	32° F	32° F		25° F	23° F
									Windy	Snow	Clear to	Clear to	-,							
Weather Conditions					Rain			Clear	Clear	Cloudy	Cloudy	Cloudy	Cloudy	Clear	Cloudy	Cloudy	Cloudy		Cloudy	Cloudy
Ground Cover					Wet			Sl. snow	None	None	None	None	None	None	None	None	None		None	None

Constant rate vapor extraction began on 12/2/97 at 21:35.
Constant rate air sparging began on 12/4/97 at 16:00.
Vapor extraction rate decreased on 12/6/97 at 11:30.
Pulsed rate sparging started on 12/7/97 at 15:30 (50% on 50% off).
Vapor extraction and air sparging ended on 12/11/97 at 2330.

2/5/98

WURTSMITH AFB PILOT TESTING SITE SS08B STEADY STATE SOIL PERMEABILITY CALCULATIONS EFFECTIVE RADIUS METHOD

	n or b P _{atm}	\mathbf{P}_{atm}	δ	P _{am} -P*	am-P* Pam-P	r re	re	n	μ Air temp. k _a k _a	ka	K,	K_{a}	K _w K _w	K
SS08Beq1	(ft)	(isd)	(scfm) (in.	(in. H ₂ O)	H ₂ O) (ft H ₂ O)	(ft)	(ft)	(ft) (kg/m,sec)	ដ	(m ²)	(darcies)	(cm/sec)	(cm/sec) (cm/sec) (ft/day)	(ft/day)
MP1	15	14.25	175.2	13.8	4.21	3.98 44	44	1.76E-05	45	1.12E-10	113.8	6.30	0.10	271.94
MP2	15	14.25	175.2	13.8	2.15	9.71	44	1.76E-05	45	1.38E-10	139.8	7.74	0.12	333.98
MP3	15	14.25	175.2	13.8	1.59	1.59 14.82 44	44	1.76E-05	45	1.34E-10	136.0	7.53	0.11	325.01
MP4	15	14.25	175.2	13.8	0.37	27.16 44	44	1.76E-05	45	2.55E-10	258.8	14.33	0.22	618.23
MP5	15	14.25 175.2	175.2	13.8	0.14	38.91	4	38.91 44 1.76E-05	45	1.72E-10	174.2	9.65	0.15	416.23

WURTSMITH AFB PILOT TESTING SITE SSO8B STEADY STATE SOIL PERMEABILITY CALCULATIONS TWO WELL METHOD

Observation Well Steady	State	Steady State	-1-1	\mathbf{r}_2	P _{atm} -P*	ở	ı,	ka	K_{a}	K	K.
	Vacuum at	Vacuum at									
Pair	Well 1	Well 2	(ft)	(ft)	(in. H_2O) (scfm)	(scfm)	(kg/m,sec)	(darcies)	(cm/sec)	(cm/sec)	(ft/day)
MP1-MP2	4.21	2.15	3.98	9.71	13.8	175	1.76E-05	9.98	4.79	7.30E-02	7.30E-02 2.07E+02
MP1-MP3	4.21	1.59	3.98	14.82	13.8	175	1.76E-05	0.89	3.77	5.73E-02	1.63E + 02
MP1-MP4	4.21	0.37	3.98	27.16	13.8	175	1.76E-05	8.66	5.53	8.41E-02	8.41E-02 2.38E+02
MP1-MP5	4.21	0.14	3.98	38.91	13.8	175	1.76E-05	111.7	61.9	9.42E-02	9.42E-02 2.67E+02
MP2-MP3	2.15	1.59	9.71	14.82	13.8	175	1.76E-05	150.5	8.33	1.27E-01	1.27E-01 3.60E+02
MP2-MP4	2.15	0.37	9.71	9.71 27.16	13.8	175	1.76E-05	115.0	6.37	9.69E-02	9.69E-02 2.75E+02
MP2-MP5	2.15	0.14	9.71	38.91	13.8	175	1.76E-05	137.4	7.61	1.16E-01	1.16E-01 3.28E+02
MP3-MP4	1.59	0.37	14.82	14.82 27.16	13.8	175	1.76E-05	98.7	5.47	8.32E-02	8.32E-02 2.36E+02
MP3-MP5	1.59	0.14	14.82	14.82 38.91	13.8	175	1.76E-05	132.3	7.33	1.12E-01	1.12E-01 3.16E+02
MP4-MP5	0.37	0.14	27.16	27.16 38.91	13.8	175	1.76E-05	310.3	17.18	2.61E-01 7.41E+02	7.41E + 02

2/6/98

WURTSMITH AFB PILOT TESTING SITE SS08B STEADY STATE SOIL PERMEABILITY CALCULATIONS PSEUDO STEADY STATE METHOD

WURTSMITH AFB PILOT TESTING

TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES SITE SS08B

				Vacuum	Time (match						
Well	W(u,r/B)	1/n	r/B	(match point)	point)	r (ff)	Ka (darcies)	Ka (darcies) Kw (cm/sec)	Kw (ft/day)	na	K'w (cm/sec)
MP1A	-	-	0.62	3.1	0.011	5.11	40.10	3.38E-02	95.80	0.24	7.46E-03
MP1B	1	-	0.62	4.3	0.013	5.11	28.90	2.44E-02	69.00	0.2	5.38E-03
MP2B	1	1	1.91	11.0	0.120	10.25	11.30	9.52E-03	27.00	0.18	4.96E-03
MP3A	1	1	1.65	5.6	0.165	15.64	22.20	1.87E-02	53.00	0.21	3.12E-03
MP3B	_	_	1.91	8.5	0.190	15.64	14.60	1.23E-02	34.90	0.16	2.76E-03
MP4A	_	-	3.19	8.1	0.730	24.27	15.30	1.29E-02	36.70	0.27	3.35E-03
MP4B	1	-	3.19	10.5	0.730	24.27	11.80	9.97E-03	28.30	0.21	2.58E-03

Air injection rate = 206.6 scfm $u = 1.8E-5 \text{ kg/m sec}^{\text{A}}$ Patm = 14.35 psi

m = 15 feet

WURTSMITH AFB PILOT TESTING SITE SS08B

STEADY STATE SOIL PERMEABILITY CALCULATIONS **EFFECTIVE RADIUS METHOD**

Steady State Solution for One Dimensional Radial Flow

Soil Vapor Extraction Pilot Testing

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2 MP1

Assume:

Steady state conditions (u < 0.01)

One dimensional flow

Equation:

$$k_a = Q_y P^* \mu$$
 $\ln(r_e I r)$
pi b $P^2 - P_{atm}^2$

where:

 $Q_v =$ volumetric flow rate (L^3/T)

P* = absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)

1048.262 kg/m sec²

absolute pressure at the observation well. (M/LT^2) $P_{atm} =$ atmosphere pressure (absolute) dury test (M/LT^2)

 $\mu =$ dynamic viscosity of soil gas (M/LT)

3.1415926 =iq

b = Aguifer thickness (L)

radius of pressure influence (L) r_e =

r = Distance from VE1 to observation well (L)

k_a = apparent air permeability (L^2)

Input:

at 46F

$$Q_V = 175.20 \text{ scfm} = 0.082679 \text{ m}^3/\text{sec}$$
 $P_{\text{atm}} = 29.03 \text{ in Hg} = 98266.3 \text{ kg/m sec}^2$
 $P^*\text{diff} = 13.80 \text{ in H}_2\text{O} = 3436.107 \text{ kg/m sec}^2$
 $u = 1.76\text{E}-05 \text{ kg/m sec}$
 $b = 15 \text{ feet} = 4.572 \text{ m}$
 $r_e = 44 \text{ feet} = 13.4112 \text{ m}$
 $r = 3.98 \text{ feet} = 1.213104 \text{ m}$
 $P \text{ diff} = 4.21 \text{ in H}_2\text{O} = 1048.262 \text{ kg/m sec}^2$

=

Calculated:

 $P^* = 94830.19 \text{ kg/m sec}^2$

 $P = 97218.04 \text{ kg/m sec}^2$

 $k_a = 1.12E-10 \text{ m}^2$ 113.8281 darcies

 $K_a = 6.302663$ cm/sec

 $K_w = 9.59E-02 \text{ cm/sec}$ 271.9416 ft/day

WURTSMITH AFB PILOT TESTING SITE SS08B

STEADY STATE SOIL PERMEABILITY CALCULATIONS TWO WELL STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow

Soil Vapor Extraction Pilot Testing

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume:

Steady state conditions (u < 0.01)

One dimensional flow

Equation:

$$k_a = Q_v P^* \mu \frac{\ln(r_2/r_1)}{\text{pi b}} P_2^2 - P_1^2$$

where:

 $Q_v = volumetric flow rate (L^3/T)$

P* = absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)

 $\mu = \frac{\text{dynamic viscosity of soil gas (M/LT)}}{\text{dynamic viscosity of soil gas (M/LT)}}$

pi = 3.1415926

b = Aquifer thickness (L)

 r_1 = distance to observation well no. 1 (L)

 r_2 = distance to observation well no. 2 (L)

 P_1 = absolute pressure at well no. 1 (M/LT^2)

 P_2 = absolute pressure at well no. 2 (M/LT^2)

 $k_a =$ apparent air permeability (L^2)

Input:

$$Q_v = 175.20 \text{ scfm} = 0.082679 \text{ m}^3/\text{sec}$$
 $P_{\text{atm}} = 29.03 \text{ in Hg} = 98266.3 \text{ kg/m sec}^2$
 $p*\text{diff} = 13.80 \text{ in H}_20 = 3436.107 \text{ kg/m sec}^2$
 $\mu = 1.76\text{E}-05 \text{ kg/m sec}$

at 46F

 $r_2 = 9.71 \text{ feet} = 2.959608 \text{ m}$

 $P_1 ext{ diff} = 4.21 ext{ in } H_2O = 1048.262 ext{ kg/m sec}^2$ $P_2 ext{ diff} = 2.15 ext{ in } H_2O = 535.3355 ext{ kg/m sec}^2$

Calculated:

 $P^* = 94830.19 \text{ kg/m sec}^2$

 $P_1 = 97218.04 \text{ kg/m sec}^2$

 $P_2 = 97730.96 \text{ kg/m sec}^2$

 $k_a = 8.55E-11 \text{ m}^2 = 86.58088 \text{ darcies}$

 $K_a = 4.793983$ cm/sec

 $K_w = 7.30E-02 \text{ cm/sec} = 206.8464 \text{ ft/day}$

WURTSMITH AFB PILOT TESTING SITE SS08B STEADY STATE SOIL PERMEABILITY CALCULATIONS PSEUDO STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow

Soil Vapor Extraction Pilot Testing

Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume:

steady state conditions

 $k_a =$

One dimensional flow

Equation:

$$k_a = Q_v \mu \frac{\ln(r_2/r_1)}{4 \text{ pi b}}$$

where: volumetric flow rate (L^3/T) $Q_v =$ μ= dynamic viscosity of soil gas (M/LT) 3.1415926 pi = b = Aquifer thickness (L) distance to observation well no. 1 (L) $r_1 =$ $r_2 =$ distance to observation well no. 2 (L) P₁ = absolute pressure at well no. 1 (M/LT^2) $P_2 =$ absolute pressure at well no. 2 (M/LT^2)

apparent air permeability (L^2)

Input:	$Q_v =$	175.20 scfm	=	0.082679 m ³ /sec
	P _{atm} =	29.03 in Hg	=	98266.3 kg/m sec ²
Temp (F)				
45	$\mu =$	1.76E-05 kg/m sec		
	b =	15 feet	=	4.572 m
	r ₁ =	3.98 feet	=	1.213104 m
	r ₂ =	9.71 feet	=	2.959608 m
	P ₁ diff =	4.21 in H ₂ O	=	1048.262 kg/m sec ²
	$P_2 diff =$	2.15 in H ₂ O	=	535.3355 kg/m sec ²

Calculated:

 $P_1 = 97218.04 \text{ kg/m sec}^2$ $P_2 = 97730.96 \text{ kg/m sec}^2$

 $k_a = 1.34E-11 \text{ m}^2 = 13.56388 \text{ darcies}$

 $K_a = 0.751032 \text{ cm/sec}$

 $K_w = 1.14E-02 \text{ cm/sec} = 32.40485 \text{ ft/day}$

WURTSMITH AFB PILOT TESTING SITE SS08B TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Transient Solution for One Dimensional Radial Flow Soil Vapor Extraction Pilot Testing MP1A

Assume:

One dimensional flow

Equations:

W(u/B) ka = Qvu4 pi b (P - Patm)

na = 4 ka (P-Patm) t ur^2 u

 $B^2 = Krmm'$ K'

where:

 $Qv = volumetric flow rate (L^3/T)$

P-Patm = guage vacuum obtained at match point (H2O")

u = dynamic viscosity of soil gas (M/LT)

pi = 3.1415926

b = vadose zone thickness (L)

(u, r/B) = leaky well function (obtained from type curve match point)

1/u = obtained from match point on type curve

t = time obtained from type curve match point

Patm = absolute atmospheric pressure ka = apparent air permeability (L^2)

 $Kr = vadose zone conductivity (L^2/T)$

K' =surface seal conductivity (L^2/T)

r/B = type curve value

m = vadose zone thickness (L)

m' = surface seal thickness (L)

Input:

Qv =206.6 scfm 0.097497 m^3/sec (P-Patm)= 3.1 in H20 = 771.9 kg/m sec^2 1.80E-05 kg/m sec u =

b = 15 feet = 4.572 m

W(u,r/B) =1

u= 1

r/B =0.62 (from matching curve)

t = 0.011 minutes 0.66 seconds Patm = 14.35 psi = 98907.38 kg/msec^2

r= 5.11 feet 1.55855 m m' =1 feet = 0.305 m

Calculated:

 $ka = 3.96E-11 \text{ m}^2$ = 40.08 darcies

Ka = 2.22 cm/sec

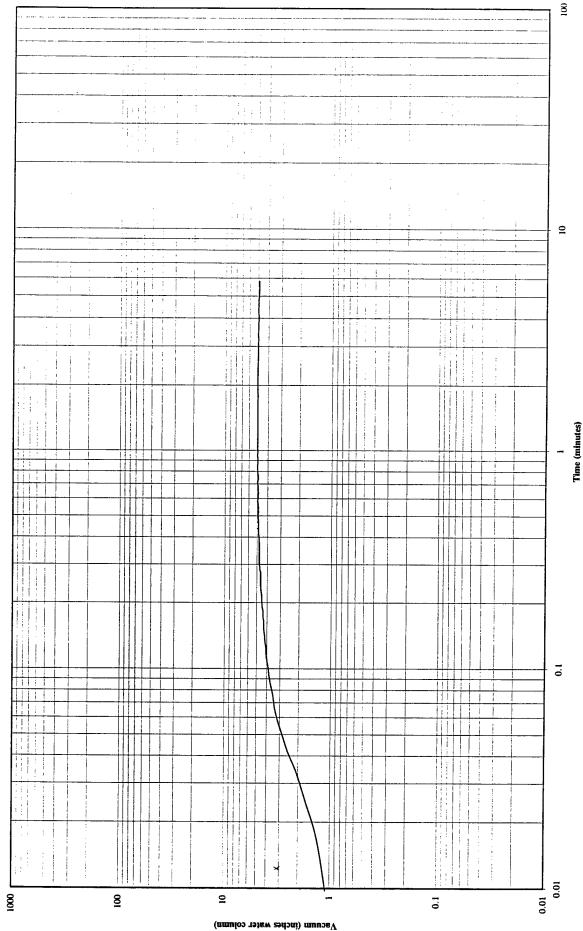
Kw = 3.38E-02 cm/sec95.75 ft/day

na = 0.236323

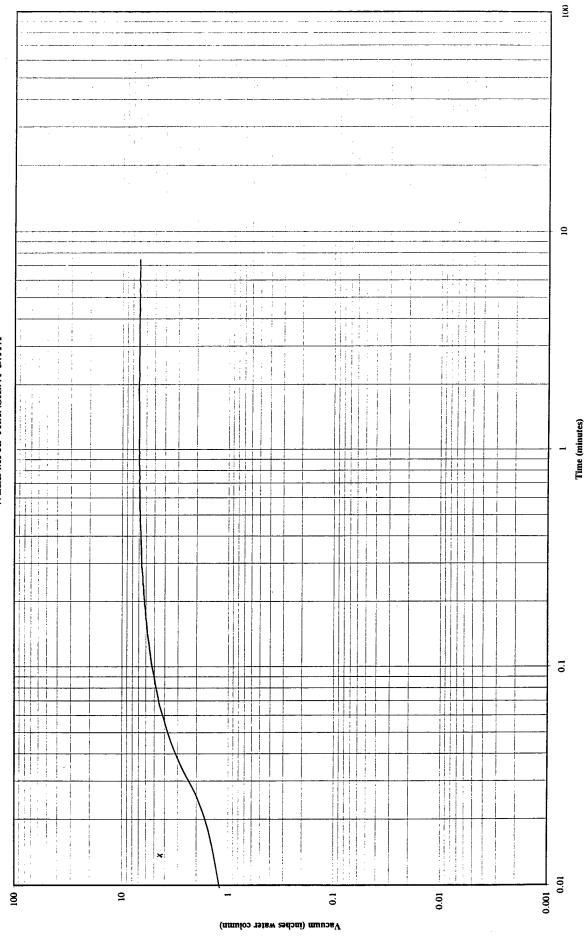
B = 8.24

K' = 7.46E-03 cm/sec21.14 ft/day

WURTSMITH AFB PILOT TESTING SITE SS08B WELL MPIA TRANSIENT DATA



WURTSMITH AFB PILOT TESTING SITE SS08B WELL MPIB TRANSIENT DATA



8 ШП 1111 WELL MP2B TRANSIENT DATA × 0.1 0.01 8 2 0.01 0.001 0.1 Vacuum (inches water column)

WURTSMITH AFB PILOT TESTING

SITE SS08B

Time (minutes)

11 WELL MP3A TRANSIENT DATA 8 0.01 2 Vacuum (inches water column)

WURTSMITH AFB PILOT TESTING

SITE SS08B

8

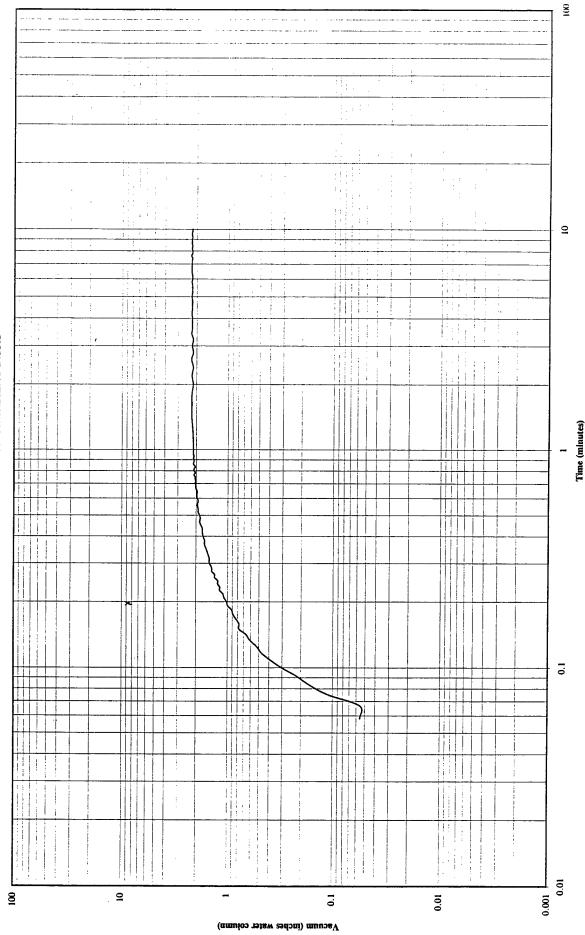
9

Time (minutes)

0.1

0.001

WURTSMITH AFB PILOT TESTING SITE SS08B WELL MP3B TRANSIENT DATA



8 2 WURTSMITH AFB PILOT TESTING SITE SS08B WELL MP4A TRANSIENT DATA 0.1 0.01 0.001 0.01 901 2 0.1 Vacuum (inches water column)

Time (minutes)

8 2 111 \mathbb{H} WELL MP4B TRANSIENT DATA 0.1 0.01 0.001 8 2 0.01 0.1 Vacuum (inches water column)

WURTSMITH AFB PILOT TESTING SITE SS08B

Time (minutes)

WURTSMITH PILOT TESTING SITE SSO8B VACUUM AND PRESSURE STEP TESTS December 2, 1997

VACUUM STEP TEST (UP)

VACUUI	VI STEP I	esi (up)
	MP6	
	Vacuum	Flow Rate
Time	(in H2O)	(scfm)
11:05	start test	
11:21	2.5	34.7
11:23	2.5	35.6
11:25	2.5	35.6
11:26	5.0	
11:27	5.0	65.4
11:29	5.0	65.4
11:31	5.0	65.4
11:32	7.5	
11:33	7.5	95.8
11:34	7.5	95.8
11:36	7.5	96.0
11:39	10.0	
11:41	10.0	121.3
11:43	10.0	121.3
11:45	10.0	121.3
11:46	12.5	
11:47	12.5	151.0
11:49	12.5	150.2
11:51	12.5	150.5
11:43	15.0	
11:55	15.0	178.0
11:57	15.0	177.1
11:59	15.9	177.3
12:00	16.4	
12:03	16.4	192.3
12:05	16.4	192.3
12:07	16.4	192.4

VACUUM STEP TEST (DOWN)

VACUUM	SIEF IES	I (DOWN
	MP6	
	Vacuum	Flow Rate
Time	(in H2O)	(scfm)
12:10	15.0	
12:12	15.0	175.8
12:14	15.0	175.5
12:16	15.0	175.5
12:17	12.5	
12:19	12.5	147.5
12:21	12.5	146.4
12:23	12.5	146.9
12:26	10.0	
12:27	10.0	117.6
12:29	10.0	117.3
12:31	10.0	117.3
12:32	7.5	
12:34	7.5	89.0
12:36	7.5	89.6
12:38	7.5	89.0
12:40	5.0	
12:41	5.0	59.0
12:43	5.0	59.0
12:45	5.0	59.2
12:46	2.5	
12:48	2.5	31.6
12:50	2.5	30.6
12:52	2.5	31.1

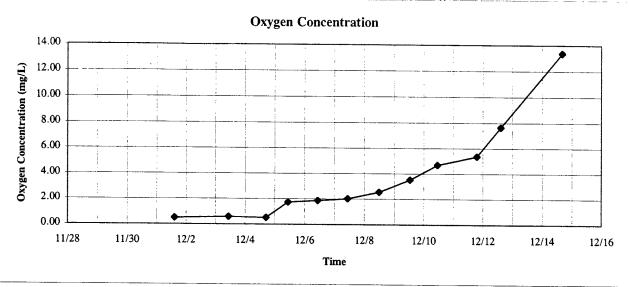
end of vacuum step test

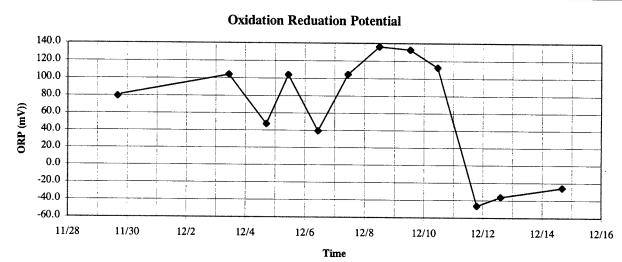
PRESSURE STEP TEST (UP)

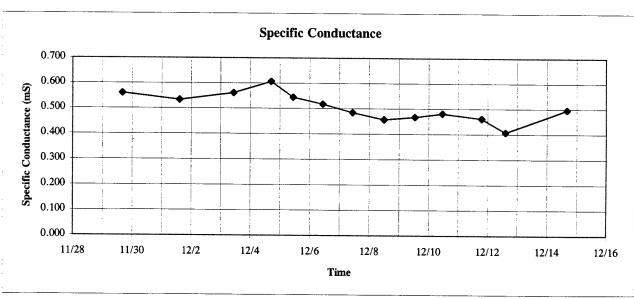
		• ,
	MP6	
	Pressure	Flow Rate
Time	(in H2O)	(scfm)
14:21	5.0	63.7
14:23	5.0	63.7
14:25	5.0	64.2
14:26	10.0	
14:28	10.0	122.6
14:30	10.0	122.3
14:32	10.0	122.7
14:34	15.0	
14:36	15.0	180.4
14:38	15.0	180.4
14:40	15.0	180.6
14:41	17.3	
14:42	17.3	204.0
14:46	17.3	204.0
14:48	17.3	203.8

End of pressure step test

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1C



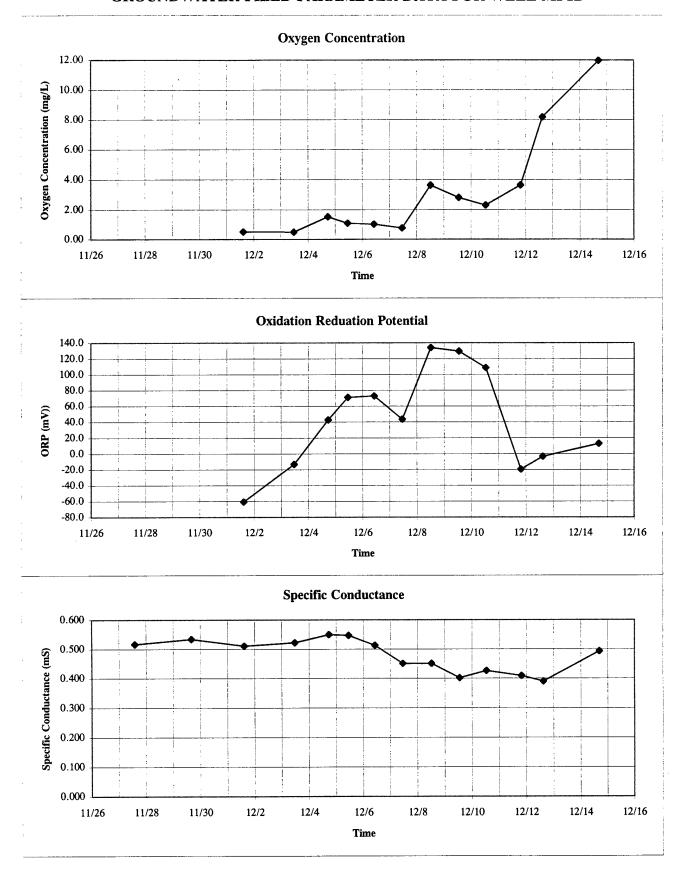




Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97

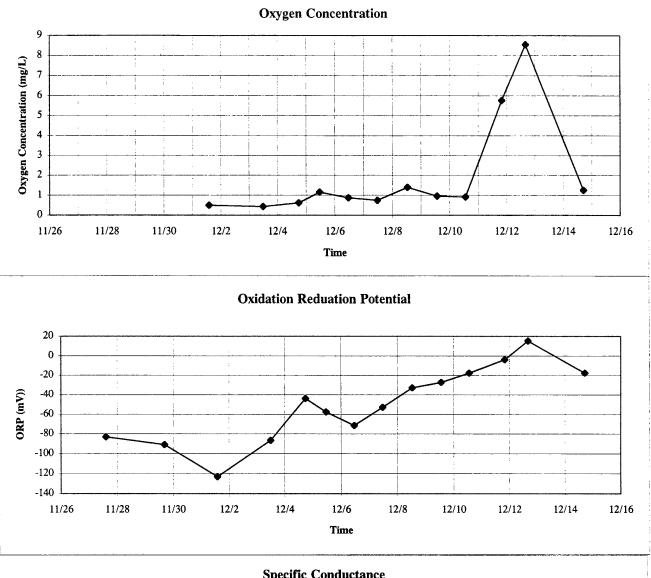
SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

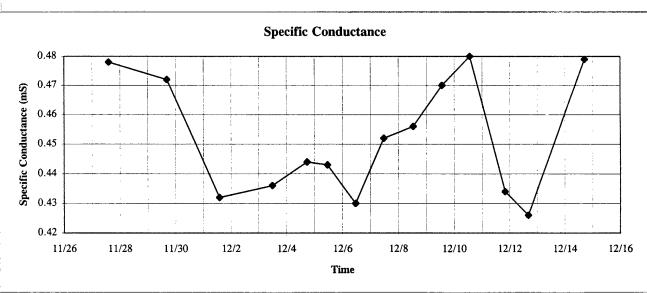
WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1D



Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

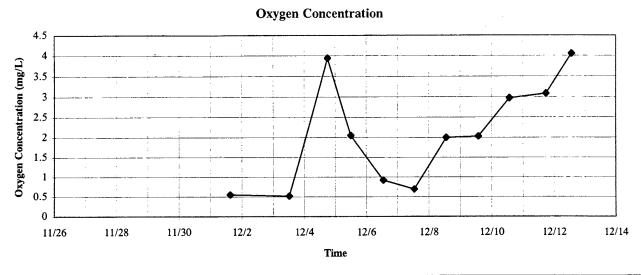
WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1E

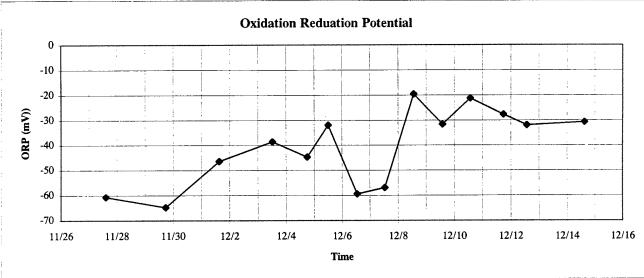


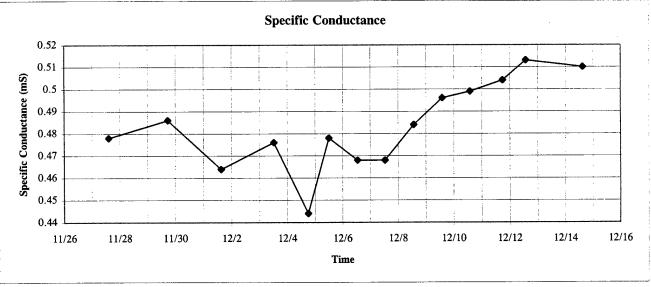


Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2C

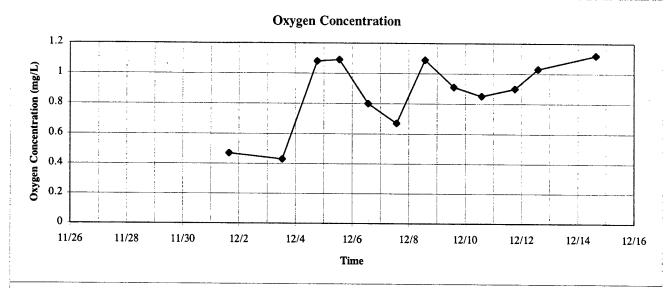


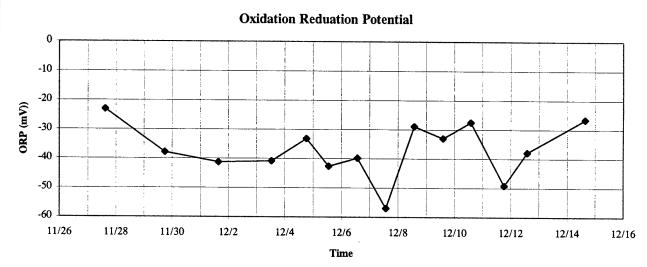


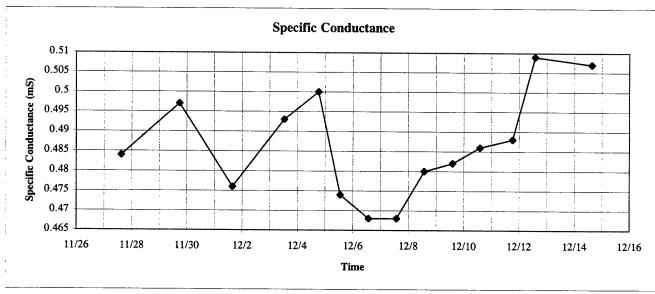


Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2D



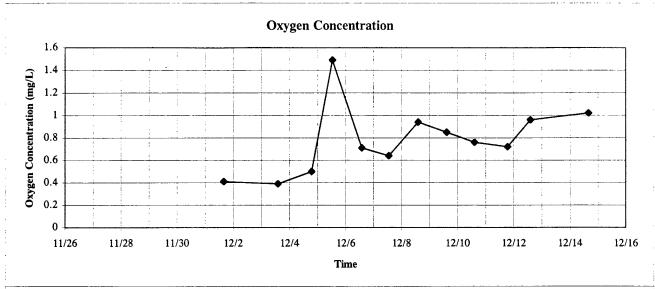


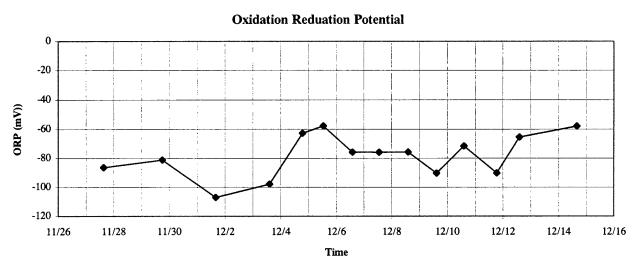


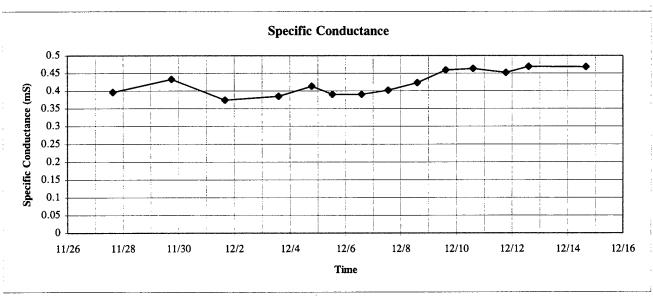
Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97

SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2E

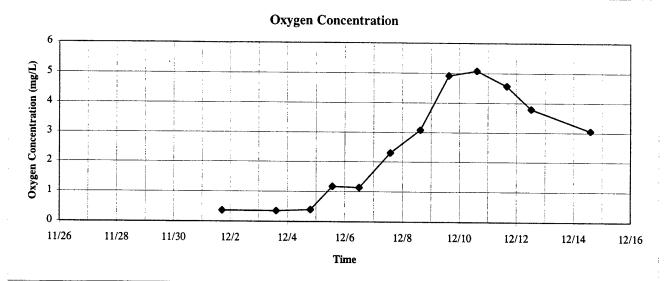


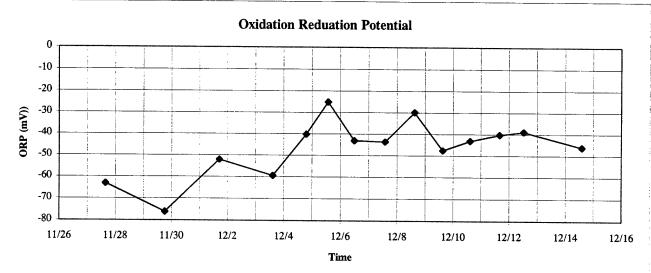


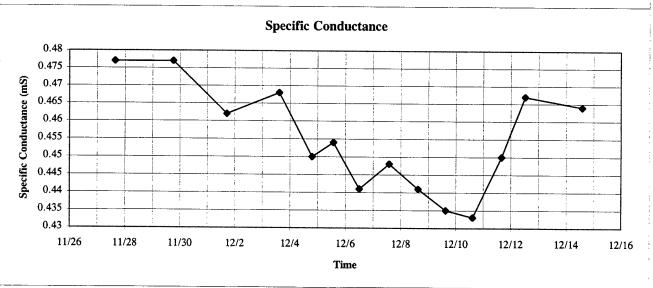


Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3C

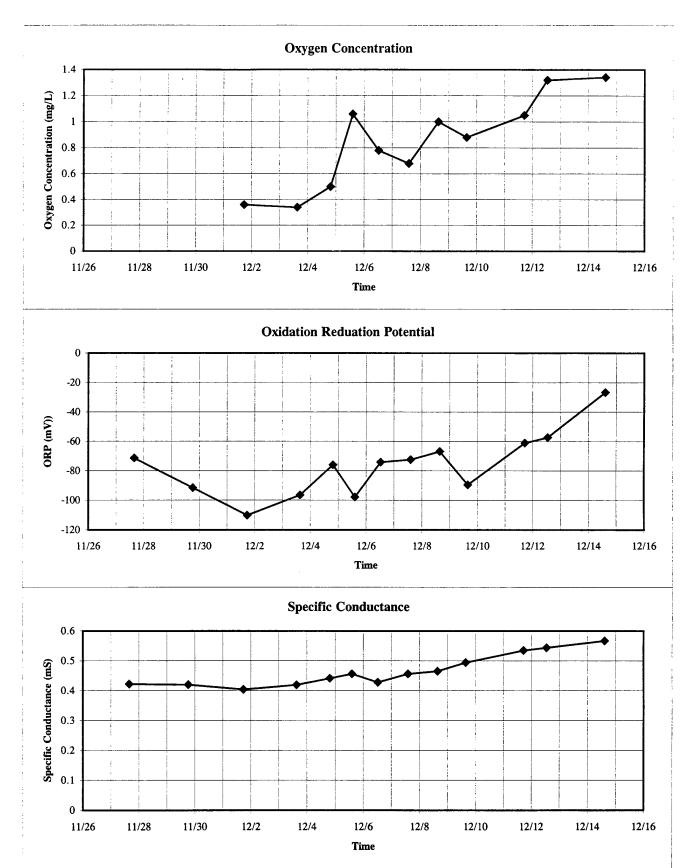






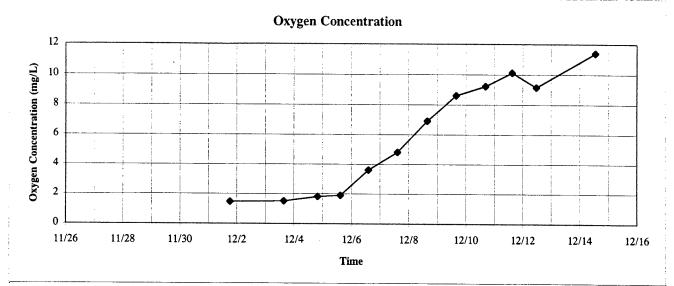
Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

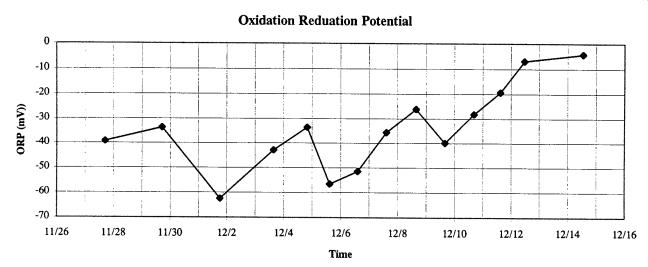
WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3D

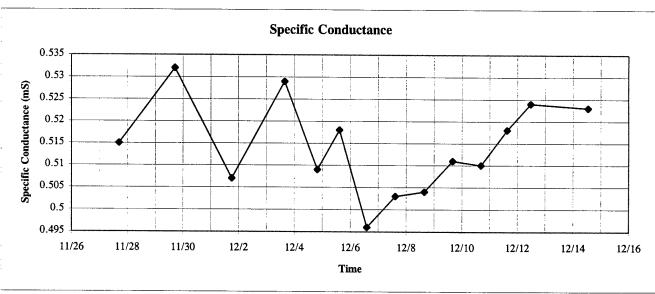


Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4C

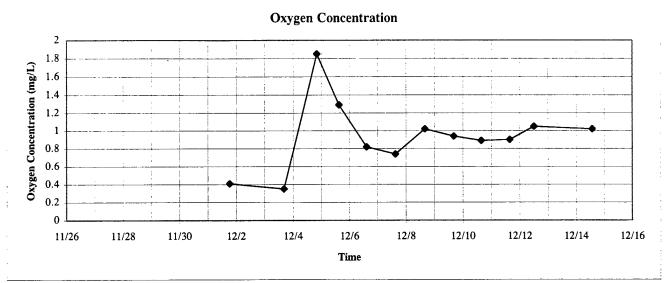


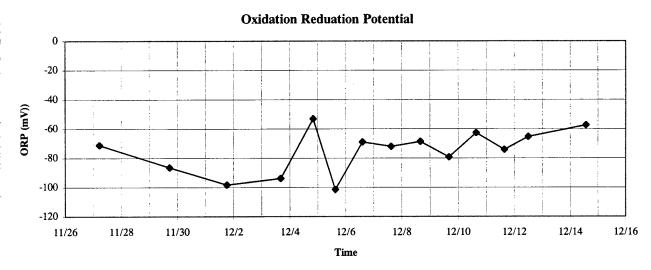


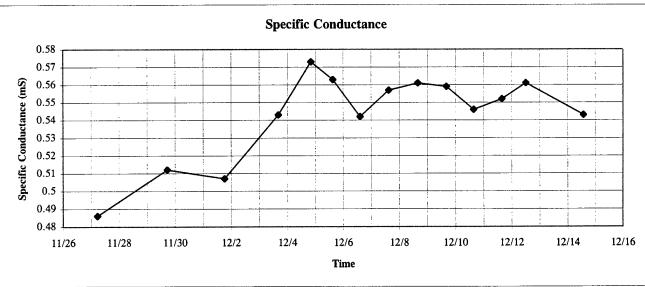


Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4D

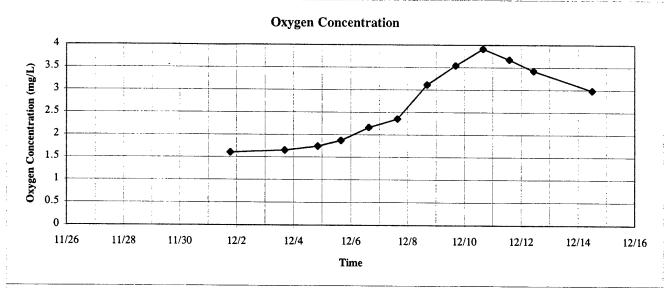


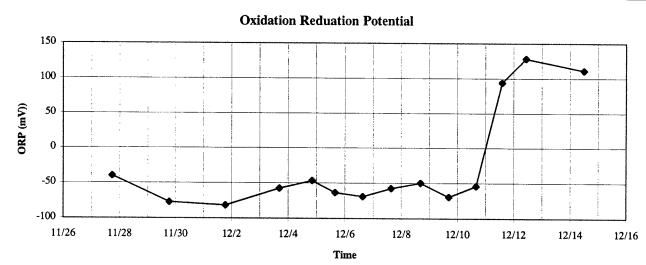


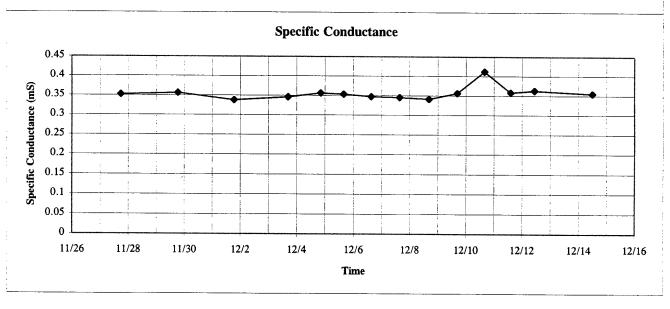


Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5C



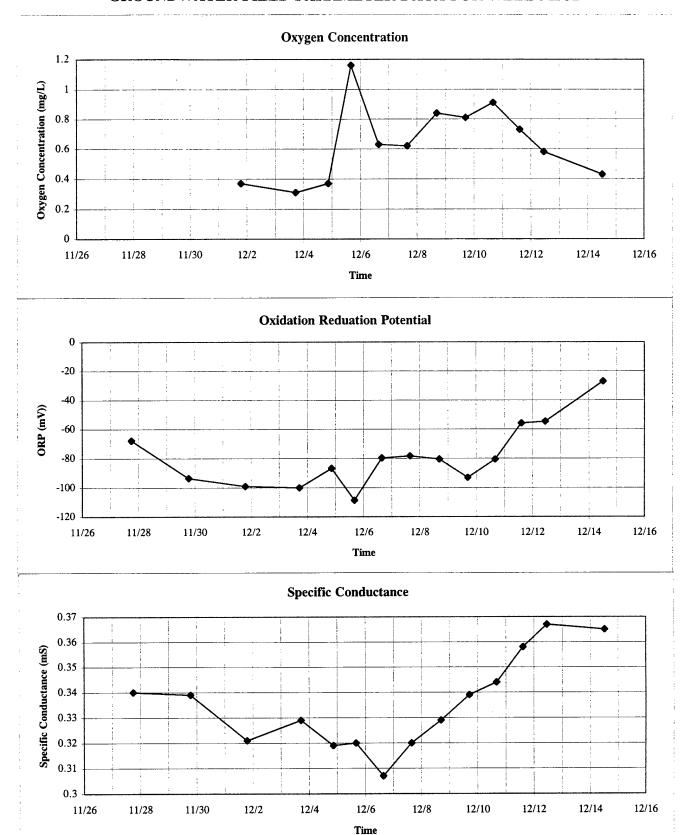




Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B

GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5D



Air Permeability Testing on 12/2/97 Steady State Extraction 12/2-11/97 SVE on 12/2/97 21:35 Sparge on 12/4/97 16:00

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1C

·	Total							Specific
	Dissolved			i				Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/29/97 16:05	0.364	0.27	10.62	7.21	11.6*	1.29*	79.4	0.560
12/1/97 14:28	0.345	0.26	9.07	7.29	4.2	0.49	-85.2*	0.533
12/3/97 10:40	0.364	0.27	10.04	7.20	5.2	0.58	104.2	0.561
12/4/97 16:57	0.393	0.30	9.80	7.34	4.5	0.51	47.3	0.606
12/5/97 10:41	0.354	0.27	8.42	7.28	14.9	1.74	104.1	0.544
12/6/97 10:43	0.336	0.25	8.00	7.21	15.7	1.86	39.2	0.517
12/7/97 10:40	0.312	0.23	7.29	7.18	16.7	2.02	104.5	0.484
12/8/97 11:55	0.296	0.22	8.33	7.16	21.6	2.54	136.0	0.457
12/9/97 12:50	0.305	0.23	8.70	7.21	30.2	3.52	132.6	0.467
12/10/97 11:10	0.311	0.23	7.13	7.38	38.4	4.69	112.7	0.481
12/11/97 19:13	0.303	0.23	8.45	7.45	46.1	5.37	-46.6	0.461
12/12/97 14:35	0.265	0.20	8.37	7.46	65.2	7.64	-36.4	0.407
12/14/97 16:13	0.323	0.24	9.04	7.46	115.9	13.36	-25.8	0.496

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1D

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 14:05	0.366	0.25	9.60	7.15	15*	1.71*	75.9*	0.517
11/29/97 16:15	0.347	0.26	10.20	7.12	10.9*	1.23*	80.2*	0.534
12/1/97 14:43	0.332	0.25	8.97	7.12	4.3	0.50	-60.6	0.511
12/3/97 11:32	0.340	0.25	9.58	7.12	4.3	0.49	-13.3	0.522
12/4/97 17:35	0.355	0.26	5.38	7.23	12.6	1.52	42.7	0.550
12/5/97 11:01	0.355	0.27	9.01	7.11	9.4	1.08	71.1	0.547
12/6/97 10:22	0.334	0.25	7.60	7.00	8.6	1.02	72.9	0.513
12/7/97 11:10	0.294	0.22	7.30	7.13	6.3	0.76	43.5	0.451
12/8/97 12:25	0.293	0.22	8.47	7.21	31.1	3.63	134.0	0.451
12/9/97 13:10	0.262	0.19	8.53	7.31	23.8	2.80	129.5	0.402
12/10/97 12:55	0.277	0.21	7.01	7.41	19.0	2.30	108.7	0.426
12/11/97 19:38	0.265	0.21	8.54	7.34	31.5	3.64	-19.6	0.409
12/12/97 14:55	0.254	0.19	8.24	7.38	69.4	8.17	-3.5	0.390
12/14/97 16:35	0.321	0.24	8.82	7.35	103.4	11.97	12.8	0.493

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1E

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 14:26	0.311	0.23	9.10	7.19	12.7*	1.46*	-83.2	0.478
11/29/97 16:30	0.307	0.23	9.75	7.13	9.3*	1.06*	-91.0	0.472
12/1/97 14:03	0.281	0.21	8.61	7.19	4.2	0.49	-123.1	0.432
12/3/97 11:58	0.284	0.21	9.26	7.20	3.7	0.43	-86.7	0.436
12/4/97 17:56	0.289	0.21	9.23	6.61	5.6	0.61	-43.8	0.444
12/5/97 11:20	0.287	0.21	7.56	7.06	9.6	1.15	-57.7	0.443
12/6/97 11:19	0.279	0.21	7.57	7.06	7.3	0.87	-71.6	0.430
12/7/97 11:30	0.295	0.22	7.08	7.04	6.1	0.74	-52.9	0.452
12/8/97 12:50	0.296	0.22	7.43	6.99	11.6	1.39	-32.8	0.456
12/9/97 13:30	0.304	0.23	8.40	7.00	8.1	0.95	-27.3	0.470
12/10/97 13:20	0.312	0.23	7.20	7.06	7.5	0.91	-17.8	0.480
12/11/97 20:03	0.282	0.21	10.41	7.36	37.9	5.76	-3.9	0.434
12/12/97 16:15	0.259	0.19	9.49	7.48	75.6	8.54	15.3	0.426
12/14/97 17:00	0.311	0.22	8.71	7.15	10.7	1.25	-17.6	0.479

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2C

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 14:40	0.310	0.23	10.05	7.31	13.9*	1.57*	-60.7	0.478
11/29/97 17:35	0.316	0.24	10.42	7.32	9.2*	1.02*	-64.8	0.486
12/1/97 15:13	0.301	0.22	8.87	7.28	4.7	0.55	-46.4	0.464
12/3/97 12:26	0.309	0.23	9.91	7.33	4.6	0.52	-38.6	0.476
12/4/97 18:14	0.288	0.21	8.42	7.04	33.7	3.94	-44.7	0.444
12/5/97 12:11	0.311	0.23	4.48	7.29	15.8	2.05	-31.9	0.478
12/6/97 13:10	0.304	0.23	8.16	7.29	7.8	0.92	-59.4	0.468
12/7/97 12:50	0.305	0.23	7.25	7.14	5.8	0.69	-56.9	0.468
12/8/97 13:25	0.315	0.23	7.90	7.24	17.4	2.00	-19.6	0.484
12/9/97 14:00	0.321	0.24	8.94	7.25	17.5	2.03	-31.6	0.496
12/10/97 13:45	0.325	0.24	7.46	7.25	24.8	2.97	-21.2	0.499
12/11/97 17:47	0.327	0.24	10.52	7.27	27.6	3.08	-27.7	0.504
12/12/97 13:30	0.335	0.25	7.69	7.25	34.1	4.05	-31.9	0.513
12/14/97 15:00	0.332	0.25	8.80	7.25	38.5	4.47	-30.7	0.510

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2D

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 14:55	0.314	0.23	9.51	7.18	13*	1.49*	-23.1	0.484
11/29/97 17:50	0.324	0.24	9.91	7.18	8.2*	0.92*	-37.9	0.497
12/1/97 15:36	0.308	0.23	9.36	7.13	4.1	0.47	-41.3	0.476
12/3/97 12:45	0.320	0.24	9.72	7.17	3.8	0.43	-40.9	0.493
12/4/97 18:27	0.325	0.24	7.48	7.10	9.1	1.08	-33.2	0.500
12/5/97 13:15	0.308	0.23	8.56	7.19	9.4	1.09	-42.6	0.474
12/6/97 13:35	0.305	0.23	8.04	7.19	6.8	0.80	-39.8	0.468
12/7/97 13:45	0.303	0.23	7.26	7.17	5.6	0.67	-57.0	0.468
12/8/97 13:50	0.312	0.23	7.77	7.09	9.2	1.09	-28.9	0.480
12/9/97 14:20	0.313	0.23	8.88	7.16	7.9	0.91	-33.0	0.482
12/10/97 14:05	0.315	0.24	7.59	7.16	7.1	0.85	-27.5	0.486
12/11/97 18:19	0.319	0.24	9.50	7.15	7.9	0.90	-49.2	0.488
12/12/97 13:55	0.331	0.25	8.28	7.09	8.7	1.03	-37.9	0.509
12/14/97 15:22	0.329	0.25	8.59	7.10	9.6	1.12	-26.6	0.507

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2E

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 15:20	0.258	0.19	9.21	7.27	9.7*	1.11*	-86.3	0.396
11/29/97 18:00	0.282	0.21	9.68	7.23	7.3*	0.83*	-81.1	0.433
12/1/97 16:00	0.242	0.18	8.79	7.23	3.5	0.41	-107.1	0.374
12/3/97 14:14	0.251	0.19	6.95	7.32	3.2	0.39	-97.9	0.385
12/4/97 18:49	0.268	0.20	8.51	6.99	4.3	0.50	-62.7	0.413
12/5/97 12:41	0.253	0.19	4.09	7.23	13.1	1.49	-57.7	0.390
12/6/97 14:00	0.254	0.19	7.71	7.23	6.0	0.71	-75.8	0.390
12/7/97 13:15	0.262	0.19	6.56	7.20	5.3	0.64	-75.9	0.402
12/8/97 14:25	0.274	0.20	7.68	7.17	7.9	0.94	-75.6	0.423
12/9/97 14:45	0.299	0.22	8.22	7.15	7.3	0.85	-90.3	0.459
12/10/97 14:25	0.299	0.22	7.44	7.15	6.3	0.76	-71.5	0.463
12/11/97 18:49	0.295	0.22	8.96	8.99	6.3	0.72	-90.2	0.452
12/12/97 14:15	0.306	0.23	7.55	7.18	8.1	0.96	-65.4	0.469
12/14/97 15:52	0.304	0.23	8.60	7.20	8.7	1.02	-57.9	0.468

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3C

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 15:40	0.309	0.23	10.31	7.38	11.4*	1.28*	-63.2	0.477
11/29/97 18:10	0.310	0.23	10.43	7.37	7.3*	0.81*	-76.2	0.477
12/1/97 17:09	0.300	0.22	9.20	7.36	3.1	0.36	-52.1	0.462
12/3/97 14:43	0.304	0.23	9.84	7.41	3.1	0.35	-59.5	0.468
12/4/97 19:20	0.293	0.22	9.61	7.37	3.5	0.39	-40.2	0.450
12/5/97 13:48	0.295	0.22	7.82	7.39	9.8	1.17	-25.2	0.454
12/6/97 11:59	0.287	0.21	8.09	7.32	9.6	1.13	-43.2	0.441
12/7/97 14:00	0.292	0.22	7.63	7.35	19.3	2.30	-43.7	0.448
12/8/97 15:00	0.287	0.21	8.39	7.35	26.3	3.08	-29.9	0.441
12/9/97 15:05	0.282	0.21	8.51	7.32	42.0	4.91	-47.6	0.435
12/10/97 14:50	0.281	0.21	7.86	7.32	42.7	5.07	-43.2	0.433
12/11/97 16:00	0.293	0.22	7.10	7.31	37.8	4.57	-40.3	0.450
12/12/97 12:25	0.303	0.23	9.05	7.32	32.9	3.79	-38.9	0.467
12/14/97 14:10	0.302	0.23	7.39	7.34	25.4	3.05	-46.1	0.464

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3D

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 15:45	0.274	0.20	9.43	7.19	9.7*	1.11*	-71.3	0.422
11/29/97 18:20	0.273	0.20	10.07	7.20	6.9*	0.78*	-91.6	0.420
12/1/97 17:39	0.262	0.19	8.64	7.18	3.1	0.36	-110.2	0.404
12/3/97 15:12	0.272	0.20	9.46	7.24	3.0	0.34	-96.5	0.419
12/4/97 19:33	0.286	0.21	8.83	7.17	4.3	0.50	-75.9	0.441
12/5/97 14:24	0.296	0.22	7.58	7.16	8.9	1.06	-97.9	0.456
12/6/97 12:30	0.278	0.21	8.03	7.10	6.6	0.78	-74.1	0.428
12/7/97 14:20	0.296	0.22	7.99	7.09	5.7	0.68	-72.4	0.456
12/8/97 15:20	0.303	0.23	8.08	7.05	8.5	1.00	-66.8	0.465
12/9/97 15:30	0.321	0.24	8.53	7.04	7.6	0.88	-89.5	0.494
12/10/97 15:10	0.286	0.21	6.11	7.34	47.5	5.89	-15.5	0.441
12/11/97 17:12	0.347	0.26	9.49	7.01	9.2	1.05	-61.1	0.535
12/12/97 13:03	0.355	0.27	7.92	7.00	11.2	1.32	-57.3	0.544
12/14/97 14:35	0.369	0.28	6.92	7.02	11.0	1.34	-26.6	0.567

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4C

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 17:00	0.335	0.25	9.77	7.38	30.1*	3.41*	-39.2	0.515
11/29/97 17:05	0.346	0.26	10.03	7.37	15.2*	1.71*	-33.7	0.532
12/1/97 18:11	0.328	0.25	8.94	7.35	12.7	1.47	-62.5	0.507
12/3/97 15:41	0.341	0.26	8.80	7.41	13.0	1.51	-42.9	0.529
12/4/97 19:58	0.329	0.25	9.24	7.27	15.8	1.81	-33.6	0.509
12/5/97 14:48	0.337	0.25	8.04	7.37	16.0	1.90	-56.6	0.518
12/6/97 14:20	0.322	0.24	8.14	7.31	30.6	3.61	-51.5	0.496
12/7/97 14:45	0.326	0.24	7.70	7.33	40.4	4.81	-35.6	0.503
12/8/97 15:40	0.327	0.24	7.81	7.32	58.1	6.91	-26.2	0.504
12/9/97 15:55	0.331	0.25	8.01	7.33	72.7	8.60	-39.9	0.511
12/10/97 16:30	0.330	0.25	7.71	7.34	77.4	9.23	-28.2	0.510
12/11/97 15:07	0.335	0.25	6.56	7.30	82.6	10.11	-19.4	0.518
12/12/97 11:30	0.341	0.26	9.10	7.32	79.5	9.15	-6.9	0.524
12/14/97 12:59	0.340	0.25	8.67	7.32	98.0	11.39	-4.3	0.523

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4D

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 5:20	0.315	0.24	9.61	7.15	18.2*	2.04*	-71.1	0.486
11/29/97 17:20	0.333	0.25	9.90	7.16	8.3*	0.94*	-86.4	0.512
12/1/97 18:27	0.330	0.25	8.18	7.14	3.5	0.41	-98.3	0.507
12/3/97 16:21	0.353	0.26	8.63	7.22	3.0	0.35	-93.9	0.543
12/4/97 20:15	0.373	0.28	4.72	7.13	14.7	1.85	-53.1	0.573
12/5/97 15:15	0.366	0.27	7.79	7.16	10.9	1.29	-101.5	0.563
12/6/97 14:40	0.355	0.27	8.25	7.08	6.9	0.82	-69.0	0.542
12/7/97 15:05	0.360	0.27	7.95	7.10	6.2	0.74	-72.0	0.557
12/8/97 15:55	0.364	0.27	7.75	7.08	8.6	1.02	-68.6	0.561
12/9/97 16:15	0.363	0.27	8.13	7.07	8.0	0.94	-79.2	0.559
12/10/97 15:30	0.354	0.26	6.81	7.07	7.3	0.89	-62.7	0.546
12/11/97 15:35	0.358	0.27	7.35	7.05	7.5	0.90	-74.1	0.552
12/12/97 11:58	0.363	0.27	9.26	7.07	9.1	1.05	-65.3	0.561
12/14/97 13:45	0.353	0.26	8.79	7.08	8.8	1.02	-57.4	0.543

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5C

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 17:35	0.229	0.17	10.11	7.52	30*	3.38*	-40.3	0.352
11/29/97 18:35	0.232	0.17	10.53	7.48	13.6*	1.51*	-77.2	0.356
12/1/97 18:44	0.219	0.16	9.21	7.50	13.9	1.60	-81.9	0.338
12/3/97 16:48	0.225	0.17	9.55	7.58	14.5	1.65	-57.8	0.346
12/4/97 20:33	0.232	0.17	9.81	7.51	15.3	1.74	-47.0	0.356
12/5/97 15:48	0.230	0.17	8.25	7.56	15.9	1.87	-63.8	0.353
12/6/97 15:10	0.226	0.17	8.74	7.46	18.6	2.16	-69.3	0.347
12/7/97 15:25	0.224	0.17	8.29	7.53	20.0	2.35	-57.8	0.345
12/8/97 16:25	0.221	0.16	8.52	7.50	26.6	3.11	-50.2	0.341
12/9/97 16:35	0.233	0.17	8.40	7.48	30.3	3.54	-69.7	0.356
12/10/97 15:50	0.269	0.20	4.84	7.22	30.5	3.91	-54.3	0.412
12/11/97 14:11	0.232	0.17	8.54	7.35	31.5	3.67	94.1	0.358
12/12/97 10:35	0.236	0.17	10.12	7.36	30.4	3.42	128.3	0.363
12/14/97 11:57	0.231	0.17	7.31	7.28	24.7	2.98	111.2	0.355

^{*} Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING SITE SS08B GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5D

	Total							Specific
	Dissolved							Conductance
Time	Solids (g/L)	Salinity	Temp (C)	pН	DO (%)	DO (mg/L)	ORP (mv)	(mS)
11/27/97 17:55	0.221	0.02	9.88	7.26	21.9*	2.47*	-67.8	0.340
11/29/97 18:50	0.220	0.16	10.03	7.33	6*	0.68*	-93.6	0.339
12/1/97 19:06	0.208	0.15	9.12	7.32	3.2	0.37	-99.1	0.321
12/3/97 17:18	0.214	0.16	9.84	7.38	2.8	0.31	-100.0	0.329
12/4/97 20:49	0.207	0.15	9.41	7.34	3.2	0.37	-86.8	0.319
12/5/97 16:15	0.203	0.15	7.98	7.36	9.8	1.16	-108.7	0.320
12/6/97 15:35	0.200	0.15	8.14	7.34	5.3	0.63	-79.8	0.307
12/7/97 15:40	0.208	0.15	8.17	7.35	5.2	0.62	-78.3	0.320
12/8/97 16:50	0.213	0.16	8.38	7.31	7.1	0.84	-80.5	0.329
12/9/97 16:55	0.221	0.16	7.94	7.31	6.8	0.81	-93.1	0.339
12/10/97 16:10	0.224	0.17	7.69	7.28	7.6	0.91	-80.6	0.344
12/11/97 14:40	0.233	0.17	8.18	7.14	6.2	0.73	-55.9	0.358
12/12/97 11:02	0.239	0.18	9.42	7.17	5.1	0.58	-54.7	0.367
12/14/97 12:24	0.238	0.18	8.73	7.13	3.7	0.43	-27.0	0.365

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP1A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 14:05	20.40	0.00	0.00	0.00	162
11/29/97 16:05	20.30	0.00	0.00	0.00	9.5
12/1/97 14:11	20.30	0.10	0.00		18
12/3/97 10:36	20.20	0.00	0.00		5.4
12/4/97 16:54	20.60	0.00	0.00	0.00	3.5-5.9
12/5/97 9:36	20.40	0.00	0.00	0.00	3.5
12/6/97 10:25	20.30	0.00	0.00	0.00	2.4
12/7/97 10:40	20.40	0.00	0.00	0.00	0.5
12/8/97 11:45	20.60	0.00	0.00	0.00	0.9
12/9/97 12:35	20.20	0.00	0.00	0.00	0.7
12/10/97 11:55	20.40	0.00	0.00	0.00	2.4
12/11/97 17:13	20.30	0.00	0.00	0.00	2.8
12/12/97 9:23	20.20	0.00	0.00	0.15	4.8
12/14/97 10:50	20.40	0.00	0.00	0.17	4.8

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP1B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 16:26	20.40	0.00	0.00	0.00	120.00
11/29/97 16:15	20.20	0.00	0.00	0.00	5.70
12/1/97 14:24	20.30	0.20	0.00		14.00
12/3/97 10:56	20.10	0.00	0.00		3.20
12/4/97 17:37	19.90	0.20	0.00	0.91	4.30
12/5/97 9:59	19.80	0.00	0.00	1.50	3.00
12/6/97 10:35	20.30	0.00	0.00	0.00	2.00
12/7/97 10:55	20.00	0.00	0.00	1.70	0.30
12/8/97 12:05	20.10	0.00	0.00	1.10	0.90
12/9/97 12:45	20.00	0.00	0.00	1.00	0.70
12/10/97 12:55	20.40	0.00	0.00	0.85	0.00
12/11/97 17:40	19.90	0.00	0.00	0.98	1.5-1.9
12/12/97 9:45	19.90	0.00	0.00	0.61	3.80
12/14/97 11:14	19.80	0.00	0.00	0.17	2.50

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP2A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 14:40	20.40	0.00	0.00	0.00	109.00
11/29/97 17:20	20.00	0.00	0.00	0.00	7.60
12/1/97 14:35	20.60	0.20	0.00		10.00
12/3/97 11:11	20.10	0.00	0.00		1.0-3.2
12/4/97 17:53	20.50	0.00	0.00	0.00	5.30
12/5/97 10:16	20.20	0.00	0.00	0.00	4.60
12/6/97 10:55	20.50	0.00	0.00	0.00	1.10
12/7/97 11:20	20.20	0.00	0.00	0.00	0.10
12/8/97 12:15	20.40	0.00	0.00	0.00	0.60
12/9/97 12:55	20.20	0.00	0.00	0.00	0.30
12/10/97 13:10	20.60	0.00	0.00	0.00	0.00
12/11/97 18:00	20.10	0.00	0.00	0.00	2.40
12/12/97 10:19	20.20	0.00	0.00	0.01	1.9-2.4
12/14/97 11:39	20.10	0.00	0.00	0.01	2.50

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP2B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 14:50	20.40	0.00	0.00	0.00	101.70
11/29/97 17:25	20.00	0.00	0.00	0.00	9.50
12/1/97 14:49	20.10	0.20	0.00		6.00
12/3/97 11:24	20.10	0.10	0.00		1.00
12/4/97 18:12	20.40	0.10	0.00	0.00	3.90
12/5/97 10:30	20.00	0.00	0.00	0.00	5.20
12/6/97 11:36	20.70	0.00	0.00	0.00	0.80
12/7/97 12:45	20.40	0.00	0.00	0.00	0.50
12/8/97 12:30	20.40	0.00	0.00	0.00	0.60
12/9/97 12:55	20.20	0.00	0.00	0.00	0.70
12/10/97 13:20	20.60	0.00	0.00	0.00	0.00
12/11/97 18:21	20.00	0.00	0.00	0.00	1.90
12/12/97 10:39	19.90	0.00	0.00	0.05	2.40
12/14/97 11:56	20.00	0.00	0.00	0.05	1.10

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP3A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 15:00	20.40	0.00	0.00	0.00	109.20
11/29/97 17:35	19.80	0.10	0.00	0.00	11.40
12/1/97 15:02	19.80	0.20	0.00		10.00
12/3/97 11:45	20.50	0.00	0.00		1.00
12/4/97 18:26	20.50	0.00	0.00	0.00	5.60
12/5/97 10:43	20.10	0.00	0.00	0.00	5.80
12/6/97 12:05	20.80	0.00	0.00	0.00	0.60
12/7/97 12:55	20.20	0.00	0.00	0.00	0.30
12/8/97 12:45	20.50	0.00	0.00	0.00	0.90
12/9/97 13:10	20.30	0.00	0.00	0.00	0.30
12/10/97 13:35	20.80	0.00	0.00	0.00	0.00
12/11/97 18:38	20.10	0.00	0.00	0.00	1.90
12/12/97 10:53	20.10	0.00	0.00	0.00	1.9-1.4
12/14/97 12:26	20.10	0.00	0.00	0.00	1.80

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP3B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 15:10	20.30	0.00	0.00	0.00	116.00
12/29/97 17:45	19.90	0.10	0.00	0.00	7.60
12/1/97 15:18	20.10	0.20	0.00		6.00
12/3/97 12:07	20.50	0.00	0.00		1.00
12/4/97 18:42	20.50	0.00	0.00	0.00	5.70
12/5/97 10:55	20.10	0.00	0.00	0.00	6.10
12/6/97 12:15	20.70	0.00	0.00	0.00	0.60
12/7/97 13:05	20.10	0.00	0.00	0.00	0.30
12/8/97 13:00	20.50	0.00	0.00	0.00	0.60
12/9/97 13:20	20.40	0.00	0.00	0.00	0.30
12/10/97 13:50	20.80	0.00	0.00	0.00	0.00
12/11/97 19:00	20.00	0.00	0.00	0.00	1.50
12/12/97 11:12	20.00	0.00	0.00	0.05	1.9-1.4
12/14/97 12:54	20.10	0.00	0.00	0.04	1.80

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP4A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 15:15	20.40	0.00	0.00	0.00	98.00
11/29/97 10:25	20.20	0.00	0.00	0.00	5.70
12/1/97 15:32	20.10	0.20	0.00		8.00
12/3/97 12:29	20.50	0.00	0.00		1.00
12/4/97 19:16	20.60	0.00	0.00	0.00	4.40
12/5/97 11:12	20.40	0.00	0.00	0.00	1.70
12/6/97 13:05	20.70	0.00	0.00	0.00	0.40
12/7/97 13:25	20.20	0.00	0.00	0.00	0.30
12/8/97 13:15	20.50	0.00	0.00	0.00	0.60
12/9/97 13:45	20.30	0.00	0.00	0.00	0.3-0.7
12/10/97 14:05	20.80	0.00	0.00	0.00	0.00
12/11/97 19:19	20.10	0.00	0.00	0.00	1.10
12/12/97 11:40	20.20	0.00	0.00	0.00	1.40
12/14/97 13:10	20.10	0.00	0.00	0.05	1.10

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP4B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 15:40	20.40	0.10	0.00	0.00	91.00
11/29/97 16:45	19.80	0.10	0.00	0.00	9.50
12/1/97 15:46	20.20	0.20	0.00		8.00
12/3/97 12:39	20.40	0.00	0.00		1.00
12/4/97 19:25	20.60	0.00	0.00	0.00	3.80
12/5/97 11:24	0.00	0.00	0.00	1.20	SJ
12/6/97 13:30	20.70	0.00	0.00	0.00	0.40
12/7/97 13:40	20.30	0.00	0.00	0.00	0.30
12/8/97 13:27	20.60	0.00	0.00	0.00	0.3-0.6
12/9/97 13:56	20.40	0.00	0.00	0.00	0.30
12/10/97 14:20	20.80	0.00	0.00	0.00	0.00
12/11/97 19:37	20.00	0.00	0.00	0.00	0.20
12/12/97 12:21	20.20	0.00	0.00	0.05	1.90
12/14/97 13:00	20.00	0.00	0.00	0.10	1.10

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP5A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 16:50	20.30	0.00	0.00	0.00	83.90
11/29/97 18:00	20.00	0.00	0.00	0.00	13.30
12/1/97 16:04	20.80	0.00	0.00		6.00
12/3/97 14:19	20.20	0.00	0.00		9.80
12/4/97 19:52	20.60	0.00	0.00	0.00	3.20
12/5/97 11:41	20.80	0.00	0.00	0.00	0.90
12/6/97 13:50	20.70	0.00	0.00	0.00	0.60
12/7/97 13:55	20.30	0.00	0.00	0.00	0.30
12/8/97 13:46	20.60	0.00	0.00	0.00	0.60
12/9/97 14:05	20.40	0.00	0.00	0.00	0.30
12/10/97 14:35	20.80	0.00	0.00	0.00	0.00
12/11/97 19:53	20.00	0.00	0.00	0.00	1.50
12/12/97 13:04	20.20	0.00	0.00	0.00	0.90
12/14/97 14:21	20.00	0.00	0.00	0.00	1.80

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP5B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 16:36	20.30	0.00	0.00	0.00	83.90
11/29/97 18:10	20.00	0.00	0.00	0.00	19.00
12/1/97 17:03	20.80	0.20	0.00		2.00
12/3/97 14:40	20.10	0.00	0.00		5.40
12/4/97 20:19	20.70	0.00	0.00	0.00	1.50
12/5/97 12:07	20.80	0.00	0.00	0.00	0.60
12/6/97 14:05	20.70	0.00	0.00	0.00	0.60
12/7/97 14:15	20.50	0.00	0.00	0.00	0.30
12/8/97 14:05	20.70	0.00	0.00	0.00	0.30
12/9/97 14:20	20.40	0.00	0.00	0.00	0.30
12/10/97 14:55	20.80	0.00	0.00	0.00	0.00
12/11/97 20:10	19.90	0.00	0.00	0.00	2.40
12/12/97 13:26	20.00	0.00	0.00	0.00	0.90
12/14/97 14:54	19.90	0.00	0.00	0.00	1.1-1.8

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR WELL MP6

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/29/97 18:35	20.10	0.00	0.00	0.00	11.40
12/1/97 17:22	20.60	0.20	0.00		2.00
12/6/97 14:15	20.70	0.00	0.00	0.00	16.50
12/7/97 14:30	20.60	0.00	0.00	0.00	6.70
12/8/97 14:20	20.70	0.00	0.00	0.00	4.50
12/9/97 14:35	20.50	0.00	0.00	0.00	3.50
12/10/97 15:10	20.70	0.00	0.00	0.00	2.40
12/11/97 20:22	20.00	0.00	0.00	0.00	1.10
12/12/97 13:47	20.00	0.00	0.00	0.09	2.80
12/14/97 15:18	20.10	0.00	0.00	0.08	4.0-4.8

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR VAPOR IN

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
12/5/97 12:37	20.70	0.00	0.00	0.17	0.60
12/6/97 14:35	20.60	0.00	0.00	0.18	1.10
12/7/97 14:50	20.60	0.00	0.00	0.25	0.50
12/8/97 14:35	20.70	0.00	0.00	0.13	0.60
12/9/97 14:50	20.50	0.00	0.00	0.11	0.30
12/10/97 15:25	20.70	0.00	0.00	0.11	0.00

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR VAPOR OUT

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
12/5/97 13:40	20.50	0.00	0.00	0.18	0.20
12/6/97 14:50	20.70	0.00	0.00	0.18	0.90
12/7/97 15:10	20.70	0.00	0.00	0.26	0.30
12/8/97 14:45	20.70	0.00	0.00	0.13	0.6-0.3
12/9/97 15:00	20.60	0.00	0.00	0.12	0.30
12/10/97 15:45	20.80	0.00	0.00	0.12	0.00

WURTSMITH AFB PILOT TESTING SITE SS08B SOIL GAS FIELD PARAMETER DATA FOR AIR ONLY

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
12/5/97 13:49	20.70	0.00	0.00	0.00	0.20
12/6/97 15:15	20.80	0.00	0.00	0.00	0.40
12/7/97 15:45	20.80	0.00	0.00	0.00	0.10
12/8/97 14:55	20.80	0.00	0.00	0.00	0.30
12/9/97 15:10	20.70	0.00	0.00	0.00	0.00
12/10/97 16:05	20.80	0.00	0.00	0.00	0.00

WURTSMITH PILOT TESTING SS08 VOC RESULTS FROM SUMMA CANNISTER SAMPLING

Sample Name:		SVE Sample		SVE Sample Port 1		SVE Sample	
Sample Date:		Port 1 12/4/97 11:20		Duplicate 12/4/97		Port 1	
Sample Time:						12/10/97	-
Target Compounds	Units	11.20	-	11:20		16:30	ļ
Freon 11							ļ
Freon113	ppb v/v	5.4	1 i	6.3		ND<2.0	
Methylene Chloride	ppb v/v	7.7		ND<4.0	1 1	ND<2.0	1
2-Butanone	ppb v/v	ND<2.0	-	ND<4.0		1.2	1 -
	ppb v/v	4.4		ND<20.0		ND<10.0	
4-Methyl-2-Pentanone	ppb v/v	1.6		ND<8.0		ND<4.0	
Ethylbenzene	ppb v/v	2.5		2.5		ND<2.0	
m,p-Xylene	ppb v/v	6.8		5.2		ND<2.0	
4-Ethyl Toluene	ppb v/v	2.3		ND<4.0		ND<2.0	
1,3,5-Trimethylbenzene	ppb v/v	1.8	J	ND<4.0		ND<2.0	
1,2,4-Trimethylbenzene	ppb v/v	7.8		11		1.5	
Tentatively Identified							
1-Ethyl-2-methylcyclopentane	ppb v/v	10	NJ			· · · · · · · · · · · · · · · · · · ·	<u> </u>
2-Methylhexane	ppb v/v	25	N	31	NJ		
2-Methylpentane	ppb v/v	13	Ν		NJ		
3-Methylhexane	ppb v/v	31	NJ				
4-Methylheptane	ppb v/v		П		NJ		<u> </u>
Butyl cyclohexane	ppb v/v	13	NJ				
C6 Unsaturated Hydrocarbon	ppb v/v	19		23	J		
C7 Unsaturated Hydrocarbon	ppb v/v					3.3	1.1
C8 Hydrocarbon	ppb v/v		1			3.8	
C8 Hydrocarbon (3)	ppb v/v	54.6	J	75	.1		-
C8 Unsaturated Hydrocarbon	ppb v/v			12			
C9 Hydrocarbon	ppb v/v			17		. ==	-
C10 Hydrocarbon	ppb v/v	8.8	J				
C10 Unsaturated Hydrocarbon	ppb v/v			24			-
C11 Hydrocarbon	ppb v/v	12	J	16			
Cyclopentane	ppb v/v		-			3.0	NI I
Freon 142	ppb v/v	34	N	44	NJ	5.4	
Hexane	ppb v/v	13			NJ	J. 1	140
Methylcyclohexane	ppb v/v	40		27	NJ	4.8	NI I
Methylcyclopentane	ppb v/v	14	_		NJ	7.0	140
Propylcyclohexane	ppb v/v		-	24			
Sulfur Hexafluoride	ppb v/v		-		140	130	NI I
Unknown Hydrocarbon(2)	ppb v/v		+		+	8.5	
Total Volatiles (ppb v/v)	FF-3 ()	327.7	\dashv	406.0	-	161.5	J
G-P		<u> </u>	\dashv	400.0		101.5	
Key:			\dashv		-		
J = Estimated Value			\dashv				
N = Tentatively Identified Compou	ınd		+		-		

APPENDIX E LABORATORY ANALYTICAL DATA, CHAIN OF CUSTODY, AND DATA VERIFICATION AND VALIDATION

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Report No.: 98AFO0002

Analytical Method: TO-14	Preparatory Method:	AAB #:	G97BT00H
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: NSS06SU001	Lab Sample ID: 97C05418	-	Matrix: AIR
% Solids:	Initial Calibration ID:		
Date Received: 21-Nov-1997 00:00	Date Extracted:	Date Analy	zed: 26-Nov-1997 14:00
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27		U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47		U
1,1,2-Trichloroethane	0.24	2.0	0.24		U
1,1-Dichloroethane	0.33	2.0	0.33		
1,1-Dichloroethene	0.52	2.0	0.52		U
1,2,4-Trichlorobenzene	1.5	4.0	1.5		U
1,2,4-Trimethylbenzene	0.37	2.0	(710		
1,2-Dibromoethane	0.37	2.0	0.37	5	U
1,2-Dichlorobenzene	0.22	2.0	0.22	5	U
1,2-Dichloroethane	0.37	2.0	0.37		
1,2-Dichloropropane	0.34	2.0	0.34		U
1,3,5-Trimethylbenzene	0.40	2.0	(240	5	
1,3-Dichlorobenzene	0.20	2.0	0.20	5	U
1,4-Dichlorobenzene	0.29	2.0	0.29		
2-Butanone	1.2	10.0	1.2		
2-Hexanone	0.67	4.0	0.67		U
4-Ethyl toluene	0.70	2.0	(240)	5	
4-Methyl-2-Pentanone	0.80	4.0	0.80	5	U
Acetone	1.1	10.0	1.1	5	U
Benzene	0.41	2.0	0.41	5	U
Benzyl Chloride	0.36	2.0	0.36	5	U
Bromodichloromethane	0.43	2.0	0.43	5	U
Bromoform	0.27	2.0	0.27	5	U
Bromomethane	0.53	2.0	0.53	5	U
Carbon Disulfide	0.61	10.0	0.61	5	U
Carbon Tetrachloride	0.35	2.0	0.35		U
Chlorobenzene	0.39	2.0	0.39		บ
Chloroethane	1.4	4.0	1.4	5	U
Chloroform	0.35	2.0	0.35	5	U
Chloromethane	0.62	4.0	0.62		U
Dibromochloromethane	0.48	2.0	0.48	5	ט

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Analytical Method: TO-14	Preparatory Metho		4.04.D.90	AAB #: <u>G97BT00H</u>			
Lab Name: DCHM	4-94-D-80						
Field Sample ID: NSS06SU001	Lab Sample	118	Matrix	x: AIR			
% Solids:	Initial Calibration ID:		··				
Date Received: 21-Nov-1997 00:00	Date Extracted:		Da	te Analyzed: 26	5-Nov-1997 14:0	0	
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V						
Analyte	MDL	RL	Concentration	Dilution	Qualifier	}	
Dichlorodifluoromethane	0.45	2.0	0.45	5	U		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	5	U
Ethylbenzene	0.62	2.0	970	5	
Freon 113	0.16	2.0	0.16	5	U
Freon 114	0.70	2.0	0.70	5	U
Freon 11	0.20	2.0	0.20	5	U
Hexachlorobutadiene	1.9	4.0	1.9	5	U
Methylene Chloride	0.33	2.0	0.33	5	U
Styrene	0.27	2.0	0.27	5	U
Tetrachloroethene	0.44	2.0	0.44	5	U
Toluene	0.63	2.0	0.63	5	U
Trichloroethene	0.53	2.0	0.53	5	U
Vinyl Acetate	0.86	10.0	0.86	5	U
Vinyl Chloride	0.58	2.0	0.58	5	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	5	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	5	U
m,p-Xylene	0.80	2.0	2000	5	
o-Xylene	0.61	2.0	0.61	5	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	5	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	5	U

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Report No.: 98AFO0002

Analytical Method: TO-14	Preparatory Method:	_ AAB #:	G97BT00H	
Lab Name: DCHM	Contract #: <u>F41624-94-D-80</u>			
Field Sample ID: NSS06SU102	Lab Sample ID: 97C05419		Matrix: AIR	
% Solids:	Initial Calibration ID:			
Date Received: 21-Nov-1997 00:00	Date Extracted:	Date Analy	zed: 26-Nov-1997 20:50	_
Concentration Units (ug/L or mg/KG	dry weight): PPR V/V			

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	10	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	. 10	U
1,1,2-Trichloroethane	0.24	2.0	0.24	10	U
1,1-Dichloroethane	0.33	2.0	0.33	10	U
1,1-Dichloroethene	0.52	2.0	0.52	10	บ
1,2,4-Trichlorobenzene	1.5	4.0	1.5	10	U
1,2,4-Trimethylbenzene	0.37	2.0	2300) 10	
1,2-Dibromoethane	0.37	2.0	0.37	10	U
1,2-Dichlorobenzene	0.22	2.0	0.22	10	U
1,2-Dichloroethane	0.37	2.0	0.37	10	U
1,2-Dichloropropane	0.34	2.0	0.34	10	U
1,3,5-Trimethylbenzene	0.40	2.0	690	10	
1,3-Dichlorobenzene	0.20	2.0	0.20	10	U
1,4-Dichlorobenzene	0.29	2.0	0.29	10	U
2-Butanone	1.2	10.0	1.2	10	U
2-Hexanone	0.67	4.0	0.67	10	U
4-Ethyl toluene	0.70	2.0	700) 10	
4-Methyl-2-Pentanone	0.80	4.0	0.80	10	U
Acetone	1.1	10.0	بالم	10	บ
Benzene	0.41	2.0	1800	10	
Benzyl Chloride	0.36	2.0	0.36	10	U
Bromodichloromethane	0.43	2.0	0.43	10	U
Bromoform	0.27	2.0	0.27	10	U
Bromomethane	0.53	2.0	0.53	10	U
Carbon Disulfide	0.61	10.0	0.61	10	U
Carbon Tetrachloride	0.35	2.0	0.35	10	U .
Chlorobenzene	0.39	2.0	0.39	10	U
Chloroethane	1.4	4.0	1.4	10	U
Chloroform	0.35	2.0	0.35	10	Ŭ
Chloromethane	0.62	4.0	0.62		U
Dibromochloromethane	0.48	2.0	0.48	10	U

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nalytical Method: TO-14	Preparatory Method: Contract #: F41624-94-D-80			AAB #:	G97B	втоон
ab Name: DCHM						
ield Sample ID: NSS06SU102	Lab Sample	Sample ID: 97C05419 Matrix: AIR			x: AIR	
Solids:	Initial Calibration ID:					
ate Received: 21-Nov-1997 00:00	Date Extracted:	1.4	· · · · · · · · · · · · · · · · · · ·	Date Analy	zed: <u>26</u>	6-Nov-1997 20:5
oncentration Units (ug/L or mg/KG d	ry weight): PPB V/V					

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	10	บ
Ethylbenzene	0.62	2.0	2300) 10	
Freon 113	0.16	2.0	0.16	10	U
Freon 114	0.70	2.0	0.70	10	U
Freon 11	0.20	2.0	0.20	10	U
Hexachlorobutadiene	1.9	4.0	1.9	10	บ
Methylene Chloride	0.33	2.0	0.33	10	ប
Styrene	0.27	2.0	0.27	10	U
Tetrachloroethene	0.44	2.0	0.44	10	U
Toluene	0.63	2.0	0.63	10	U
Trichloroethene	0.53	2.0	0.53	10	U
Vinyl Acetate	0.86	10.0	0.86	10	U
Vinyl Chloride	0.58	2.0	0.58	10	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	10	บ
cis-1,3-Dichloropropene	0.34	2.0	0.34	10	U
m,p-Xylene	0.80	2.0	4700) 10	
o-Xylene	0.61	2.0	0.61	10	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	10	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	10	U

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Analytical Method: TO-14	Preparatory Method:	AAB #: <u>G97BT00H</u>
Lab Name: DCHM	Contract #: F41624-94-D-80	
Field Sample ID: NSS06SUAB1	Lab Sample ID: 97C05420	Matrix: AIR
% Solids:	Initial Calibration ID:	
Date Received: 21-Nov-1997 00:00	Date Extracted:	Date Analyzed: 27-Nov-1997 00:24
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27		U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	ט
1,2,4-Trimethylbenzene	0.37	2.0	3.4	1	
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	(1.2) 1	J
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	(1.9) 1	J —
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	لمل	1	U
Benzene	0.41	2.0	(1.7) 1	J _
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	Ū



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Analytical Method: TO-14 Lab Name: DCHM	Preparatory Method: Contract #: F41624-94-D-80			AAB #: <u>G97E</u>	втоон	_
Field Sample ID: NSS06SUAB1	Lab Sample			Matrix: AIR		
% Solids:	Initial Calibration ID:	******				
Date Received: 21-Nov-1997 00:00	Date Extracted:		Dat	e Analyzed: 27	7-Nov-1997 00:2	24
Concentration Units (ug/L or mg/KG of	dry weight): PPB V/V					-
Analyte	MDL	RL	Concentration	Dilution	Qualifier) V
Dichlorodifluoromethane	0.45	2.0	0.45	1	U	U
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Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	(8.0	1	
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	(19.) 1	
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

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Report No.: 98AFO0002

Analytical Method: TO-14 Preparatory Method:		_ AAB #:	G97BT00H
Lab Name: DCHM	Contract #: <u>F41624-94-D-80</u>		
Field Sample ID: NSS06SUTB1	Lab Sample ID: 97C05421		Matrix: AIR
% Solids:	Initial Calibration ID:		
Date Received: 21-Nov-1997 00:00	Date Extracted:	Date Analy	zed: <u>27-Nov-1997 01:09</u>
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	ប
1,2,4-Trimethylbenzene	0.37	2.0	0.37	1	U
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	ប
1,3,5-Trimethylbenzene	0.40	2.0	0.40	1	U
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	0.70	1	U
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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nalytical Method: TO-14	Preparatory Method:			AAB #: <u>G97B</u>	Т00Н
ab Name: DCHM	Contrac	t#: <u>F4162</u>	4-94-D-80		
ield Sample ID: NSS06SUTB1	Lab Sample l	D: 97C054	121	Matrix	c: AIR
Solids:					
ate Received: 21-Nov-1997 00:00	Date Extracted:		Date	e Analyzed: 27	-Nov-1997 01:
oncentration Units (ug/L or mg/KG da	ry weight): PPB V/V				
Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	0.62	1	U
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	1.8) 1	J
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
rans-1,3-Dichloropropene		2.0	0.44	1	



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Report No.: 98AFO0017

Analytical Method: TO-14	Preparatory Method:	AAB #: <u>G97BT00H</u>
Lab Name: DCHM	Contract #: F41624-94-D-80	<u>)</u>
Field Sample ID: NSS06S 1002	Lab Sample ID: 97I25019	Matrix: AIR
% Solids:	Initial Calibration ID:	
Date Received: 26-Nov-1997 00:00	Date Extracted:	Date Analyzed: 26-Nov-1997 23:39
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	.27	2.0	.27	10	
1,1,2,2-Tetrachloroethane	.47	2.0	.47	10	
1,1,2-Trichloroethane	.24	2.0	.24	10	U
1,1-Dichloroethane	.33	2.0	.33	10	U
1,1-Dichloroethene	.52	2.0	.52	10	
1,2,4-Trichlorobenzene	1.5	4.0	1.5	10	U
1,2,4-Trimethylbenzene	.37	2.0	8600	<i>)</i> 10	
1,2-Dibromoethane	.37	2.0	.37	10	
1,2-Dichlorobenzene	.22	2.0	.22	10	U
1,2-Dichloroethane	.37	2.0	.37	10	U
1,2-Dichloropropane	.34	2.0	34	10	U
1,3,5-Trimethylbenzene	.40	2.0	3400) 10	
1,3-Dichlorobenzene	.20	2.0	.20	10	U
1,4-Dichlorobenzene	.29	2.0	.29	10	υ
2-Butanone	1.2	10.0	1.2	10	U
2-Hexanone	.67	4.0	67	10	U
4-Ethyl toluene	.70	2.0	5100	10	
4-Methyl-2-Pentanone	.80	4.0	.80	10	U
Acetone	1.1	10.0	11	10	U
Benzene	.41	2.0	5400	10	•
Benzyl Chloride	.36	2.0	.36	10	U
Bromodichloromethane	.43	2.0	.43	10	Ū
Bromoform	.27	2.0	.27	10	U
Bromomethane	.53	2.0	.53	10	U
Carbon Disulfide	.61	10.0	.61	10	U
Carbon Tetrachloride	.35	2.0	.35	10	U
Chlorobenzene	.39	2.0	.39	10	U
Chloroethane	1.4	4.0	1.4	10	U
Chloroform	.35	2.0	.35	10	บ
Chloromethane	.62	4.0	.62	10	U
Dibromochloromethane	.48	2.0	.48	10	U

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Report No.: 98AFO0017

Analytical Method: TO-14	Preparatory Method:	AAB#:	G97BT00H
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: NSS06SW002	Lab Sample ID: 97I25019		Matrix: AIR
% Solids:	Initial Calibration ID:		
Date Received: 26-Nov-1997 00:00	Date Extracted:	Date Analyz	zed: 26-Nov-1997 23:39
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	.45	2.0	.45	10	U
Ethylbenzene	.62	2.0			
Freon 113	.16	2.0	.16	10	
Freon 114	.70	2.0	.70	10	
Freon 11	.20	2.0	.20	10	
Hexachlorobutadiene	1.9	4.0	1.9	10	
Methylene Chloride	.33	2.0	.33	10	
Styrene	.27	2.0	.27	10	
Tetrachloroethene	.44	2.0	.44	10	
Toluene	.63	2.0	.63	10	
Trichloroethene	.53	2.0	.53	10	
Vinyl Acetate	.86	10.0	.86	10	
Vinyl Chloride	.58	2.0	.58	10	
cis-1,2-Dichloroethene	.29	2.0	.29	10	
cis-1,3-Dichloropropene	.34	2.0	34	10	
m,p-Xylene	.80	2.0	46000	10	
o-Xylene	.61	2.0	(3200)	10	
trans-1,2-Dichloroethene	.64	2.0	.64	10	U
trans-1,3-Dichloropropene	.44	2.0	.44	10	

Comments:	
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	R(2)3/98

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Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061DGW001

Lab Sample ID:

97C05468

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A Date Analyzed: 12/6/97 12:43

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1600	1	_

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

p (2/3/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061EGW001

Lab Sample ID:

97C05469

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 12:50

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1500	1	

Surrogate	urrogate Recovery Co		Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier	
N/A	N/A	

Comments:

None.

R(2/3/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

FG N061**D**FW001

Lab Sample ID:

97C05470

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 12:58

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	5400	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

In the original analysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

R(2/3/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062DGW001

Lab Sample ID:

97C05471

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 13:06

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	5100	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

(2/3/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062EGW001

Lab Sample ID:

97C05472

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 13:14

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	5500	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062FGW001

Lab Sample ID:

97C05473

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 13:22

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3300	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

In the original analysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

WE 2/3/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N063DGW001

Lab Sample ID:

97C05474

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 13:30

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3600	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

NG 2/3/94

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N063DGW101

Lab Sample ID:

97C05475

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 13:37

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2800	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N063EGW001

Lab Sample ID:

97C05476

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 13:45

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	4000	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N064EGW001

Lab Sample ID:

97C05477

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 13:53

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	98	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N064DGW001

Lab Sample ID:

97C05494

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 14:17

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	990 ND	1	
			F7 1/30,	198	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N065DGW001

Lab Sample ID:

97C05478

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 14:01

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3300	1	



Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV26

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N065EGW001

Lab Sample ID:

97C05479

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/26/97

Date Extracted: N/A

Date Analyzed: 12/6/97 14:09

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	450	1	

Surrogate	Recovery	Control Limits	Qualifier	
N/A	N/A	N/A	N/A	

Internal Std	Qualifier	
N/A	N/A	

Comments:

None.

R(2/3)98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061DGW002

Lab Sample ID:

97C05480

% Solids:

N/A

Initial Calibration ID:

Date Extracted: N/A

SF6-1206

Date Analyzed: 12/6/97 14:40

Date Received: 11/27/97 Concentration Units: µg/L

Concentration Qualifier Analyte **MDL** RL**Dilution** Sulfur Hexafluoride N/A 32 660

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061EGW002

Lab Sample ID:

97C05481

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 14:48

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1600	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifie	
N/A	N/A	

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061FGW002

Lab Sample ID:

97C05482

% Solids:

N/A

Initial Calibration ID:

SF6-1206

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Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 14:56

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1500	1	

VQ

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062DGW002

Lab Sample ID:

97C05483

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 15:04

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3800	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative

R(2)5)98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062FGW002

Lab Sample ID:

97C05484

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Extracted: N/A

Date Analyzed: 12/6/97 15:12

Concentration Units: µg/L

Date Received: 11/27/97

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1200	1	

Surrogate	Recovery	Recovery Control Limits	
N/A	N/A	N/A	N/A

Internal Std	Qualifie	
N/A	N/A	

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N063DGW101

Lab Sample ID:

97C05485

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 15:20

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1200	1	

Surrogate	ate Recovery Control Limits		Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N063EGW002

Lab Sample ID:

97C05486

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 15:28

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2400	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N064DGW003

Lab Sample ID:

97C05487

% Solids:

N/A

Initial Calibration ID:

SF6-1206

70 201140

Date Extracted: N/A

Date Analyzed: 12/6/97 15:36

Concentration Units: µg/L

Date Received: 11/27/97

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	680	1	

4

Surrogate	Recovery	Recovery Control Limits	
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N064EGW002

Lab Sample ID:

97C05488

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 15:43

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1300	1	

VQ

Surrogate	e Recovery Control Limits		Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N064DGW102

Lab Sample ID:

97C05489

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Extracted: N/A

Date Analyzed: 12/6/97 15:51

Concentration Units: µg/L

Date Received: 11/27/97

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1400	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N065DGW002

Lab Sample ID:

97C05490

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 15:59

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	76	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifie	
N/A	N/A	

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N065EGW002

Lab Sample ID:

97C05491

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 16:07

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	18	1	

Surrogate	Recovery Control Limits		Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N193SGW001

Lab Sample ID:

97C05492

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 16:15

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

NOV27

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062EGW002

Lab Sample ID:

97C05493

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 11/27/97

Date Extracted: N/A

Date Analyzed: 12/6/97 16:23

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1500	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC₀₂

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061DGW003

Lab Sample ID:

97C05495

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 16:46

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1200	1	

Surrogate	ogate Recovery Control Limits		Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC02

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061EGW003 •

Lab Sample ID:

97C05496

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 16:54

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	4700	1	

Surrogate	Recovery	Control Limits	Qualifier	
N/A	N/A	N/A	N/A	

Internal Std	Qualifie	
N/A	N/A	

In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC02

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061EGW103

Lab Sample ID:

97C05497

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:02

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2400	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier	
N/A	N/A	

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC₀₂

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N061FGW003

Lab Sample ID:

97C05498

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997

Date Extracted: N/A Date Analyzed: 12/6/97 17:10

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3300	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF₆ into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC02

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062DGW003

Lab Sample ID:

97C05499

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:18

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1700	1	

Surrogate	gate Recovery Control Limits		Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC₀₂

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062EGW003

Lab Sample ID:

97C05500

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:26

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2600	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC02

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N062FGW003

Lab Sample ID:

97C05501

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:33

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	√810 2 40 0	1	

Pr 42/98

Surrogate	Recovery	Control Limits	Qualifier	
N/A	N/A	N/A	N/A	

Internal Std	Qualifier		
N/A	N/A		

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC02

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N063DGW003

Lab Sample ID:

97C05502

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:41

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2000	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC₀₂

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N063EGW003

Lab Sample ID:

97C05503

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997

Date Extracted: N/A Date Analyzed: 12/6/97 17:49

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	4800	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC₀₂

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N064DGW003

Lab Sample ID:

97C05504

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:57

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1000	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC₀₂

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N064EGW003

Lab Sample ID:

97C05505

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 18:05

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	460	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC02

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N065DGW003

Lab Sample ID:

97C05506

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 18:13

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	91	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC₀₂

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N065DGW003

Lab Sample ID:

97C05507

% Solids:

N/A

Initial Calibration ID:

SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 18:20

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	89	1	

Surrogate	urrogate Recovery Control Lin		Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

2(2/3)98

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC02

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N065EGW003

Lab Sample ID:

97C05508

% Solids:

N/A

Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 18:28

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	13	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None. R(2)3/94



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Analytical Me	thod: 8260	Preparatory Method:					i: AAB #: <u>G97CC00C</u>				AAB #: <u>G97CC00C</u>				_
Lab Name: D	СНМ		Contra	act#:	: <u>F4162</u>	4-94-D-80									
Field Sample	ID: <u>N8B1EGW001</u>		Lab Sample ID: 97C05542				Matrix: WG								
% Solids:	I	nitial Calib	ration ID: _												
Date Received	i: 05-Dec-1997 00:00	Date I	Extracted: _				Date	e Analyzed:	<u>11-J</u>	Dec-1997 12:0)6				
Concentration	Units (ug/L or mg/KG dry	v weight): <u>u</u>	ıg/L												
	Analyte		MDL		RL	Concentrat	tion	Dilution	Т	Qualifier]]				
Benzene			0.311		1	(0.311		1 1	IJ] 1				
Ethylbenzer	ne		0.296		1	().296		1 1	U] (
Toluene			0.318		1		8.3	>	1		B				
m,p-Xylene			0.622		1	(0.622		1 1	Ŭ	ر ا ر				
o-Xylene			0.321		1	(0.321		1 [1	ט	J				
	Surrogate		Recover	у	Cont	trol Limits		Qualifier]						
	1,2-Dichloroethane-D4		9	4.5		76.0-114]						
	4-BromoFluorobenzen	e	9	6.9		86.0-115]						
	Toluene-D8		1	01.		88.0-110]						
						· · · · · · · · · · · · · · · · · · ·			_						
Comments:															
							·····				_				
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			727		2)	4198					-				
						7					-				



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Analytical Method: 8260 Prep	aratory Meth	od:		AAB #: <u>G97</u> 0	CC00C	
Lab Name: DCHM	Contra	act#: <u>F41</u>	524-94-D-80			
Field Sample ID: N8B2EGW001	Lab Sample	ID: <u>97C</u> 0	5543	Matr	ix: WG	_
% Solids: Initial Cali	bration ID: _					
Date Received: 05-Dec-1997 00:00 Date	Extracted: _			Date Analyzed: 1	1-Dec-1997 13:39	
Concentration Units (ug/L or mg/KG dry weight):	ug/L					
Analyte	MDL	RL	Concentrati	on Dilution	Qualifier	Ţ
Benzene	0.311).60	1 J	
Ethylbenzene	0.296			296	1 U	U
Toluene	0.318				1 U	U
m,p-Xylene	0.622		1 0.	622	1 U	U
o-Xylene	0.321		1 0.	321	1 U	U
Surrogate	Recover	y C	ntrol Limits	Qualifier		
1,2-Dichloroethane-D4	9	4.2	76.0-114.			
4-BromoFluorobenzene	8	88.8	86.0-115.			
Toluene-D8	9	6.4	88.0-110.			
Comments:		<i></i>				
		1	1)(() o v		



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Report No.: 98AFO0005

Analytical Method: 8260	Preparatory Method:	AAB #: <u>G97CC00C</u>
Lab Name: DCHM	Contract #: F41624-94-D-80	
Field Sample ID: N8B4DGW001	Lab Sample ID: 97C05544	Matrix: WG
% Solids:	Initial Calibration ID:	
Date Received: 05-Dec-1997 00:00	Date Extracted:	Date Analyzed: 11-Dec-1997 14:10
Concentration Units (ug/L or mg/KG	dry weight): ug/L	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	0.311	1	U
Ethylbenzene	0.296	1	0.296	1	U
Toluene	0.318	1	0.318	1	ט
m,p-Xylene	0.622	1	0.622	1	บ
o-Xylene	0.321	1	0.321	1	U

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	97.5	76.0-114.	
4-BromoFluorobenzene	95.2	86.0-115.	
Toluene-D8	101.	88.0-110.	

Comments:	
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Report No.: 98AFO0005

Field Dup.

Analytical Method: 8260	Preparatory Metho	xd:		AAB #: G970	CC00C	_
Lab Name: DCHM	Contra	ct #: F4162	4-94-D-80			
Field Sample ID: N8B5DGW101	Lab Sample	ID: <u>97C05</u>	547	Matri	x: WG	
% Solids:	nitial Calibration ID: _					
Date Received: 05-Dec-1997 00:00	Date Extracted:			Date Analyzed: 1	1-Dec-1997 15:4	13
Concentration Units (ug/L or mg/KG dr	y weight): ug/L					
Analyte	MDL	RL	Concentratio	n Dilution	Qualifier	JVQ
Benzene	0.311	1	0.3		U	U
Ethylbenzene	0.296	1			ט יי	1 1
Toluene	0.318	1	0.3		U	1 1.
m,p-Xylene	0.622	1	0.6		U	1 4
o-Xylene	0.321	1	0.3	21	U] \(\)
Surrogate	Recovery	Con	trol Limits	Qualifier		
1,2-Dichloroethane-D	4 92	2.4	76.0-114.			
4-BromoFluorobenzer	ne 9	1.7	86.0-115.			
Toluene-D8	9.	7.9	88.0-110.			
Comments:		VQ	(1) 		-



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Analytical Method: 8260	Preparatory Meth	od:		AAB #: <u>G9</u>	7CC00C	_
Lab Name: DCHM	Contra	act #: F4162	4-94-D-80			
Field Sample ID: N8B5DGW001	Lab Sample	ID: <u>97C055</u>	546	Ma	trix: WG	
% Solids: I	nitial Calibration ID: _					
Date Received: 05-Dec-1997 00:00	Date Extracted: _		<u> </u>	Date Analyzed:	11-Dec-1997 15:1	12
Concentration Units (ug/L or mg/KG dry	y weight): ug/L					
Analyte	MDL	RL	Concentrati	on Dilution	Qualifier	
Benzene	0.311	1	0	311	1 U] V
Ethylbenzene	0.296	1	0	296	1 U] /
Toluene	0.318	1		4.9	1	B
m,p-Xylene	0.622	1	B	622	1 U] Ū
o-Xylene	0.321	1	0	321	1 U	」し
Surrogate	Recover	y Con	trol Limits	Qualifier]	
1,2-Dichloroethane-D4	9	96.7	76.0-114.]	
4-BromoFluorobenzen	e g	95.7	86.0-115.		_	
Toluene-D8		101.	88.0-110.			
			•		_	
Comments:						
			2 ((1.1/		_
		- V2 (- 	9 P		
			- ,			-



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Analytical Met	hod: 8260	Preparatory Metho	od:				AAB#: <u>G97C</u>	C00C	
Lab Name: DC	CHM	Contra	act #: <u>F</u>	4162	4-94-D-80				
Field Sample II	D: N8B4DTB001	Lab Sample	: ID: <u>97</u>	C055	45		Matri	k: <u>NQ</u>	
% Solids:		Initial Calibration ID: _							
Date Received:	05-Dec-1997 00:00	Date Extracted:				Date	e Analyzed: 11	-Dec-1997 14:4	1
Concentration I	Units (ug/L or mg/KG o	lry weight): ug/L							
	. •								
	Analyte	MDL	RL		Concentratio	n	Dilution	Qualifier	1 V
Benzene	,	0.311		1	0.3	11	1	U	U
Ethylbenzene	e	0.296		1	0.2	96	1	U	U,
Toluene		0.318		1		5.2) 1		{
m,p-Xylene		0.622		1	0.6	_	1	U	l O,
o-Xylene		0.321		1	0.3	21	1	U	
	Surrogate	e Recover	у	Cont	rol Limits	(Qualifier		
	1,2-Dichloroethane-I	04 9	5.7		76.0-114.				
	4-BromoFluorobenze	ene 9	7.6		86.0-115.				
	Toluene-D8		01.		88.0-110.				



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Analytical Method: 8260 Prep			aratory Method:				AAB #: <u>G97CC00C</u>					
Lab Name: DC	CHM		Contract #: F41624-94-D-80									
Field Sample II): NH89SGW001		Lab Sample ID: <u>97C05548</u>					Matrix: WG				
% Solids:	Init	ial Calil	bration ID: _				_					
Date Received:	Date Received: 05-Dec-1997 00:00 Date E				·		_	Date	A	nalyzed: 11	-Dec-1997 16	5:14
Concentration U	Jnits (ug/L or mg/KG dry w	veight):	ug/L		-							
	Analyte		MDL	R	T.	Concer	tratio	n (Dilution	Qualifier	$\neg \ \lor^{(}$
Benzene			0.311		1		1	1.1	7	1		一下
Ethylbenzene	;		0.296		1		/ 5	20		25	D	7 7
Toluene			0.318		1		2	70		25	D	
m,p-Xylene			0.622		1		16	00	7	50	D	
o-Xylene			0.321		1		1	50	<u> </u>	25	D	」 さ
	Surrogate		Recover	у	Cont	rol Limit	s	(Qua	alifier		
	1,2-Dichloroethane-D4		ل ا	03.		76.0-1	14.				•	
	4-BromoFluorobenzene		7	4.2		86.0-1	15.				Low	
	Toluene-D8			60.		88.0-1	10.					
Comments:				R(<u> </u>	2/4/	98					



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Analytical Method: 82	260	Preparatory Metho	Preparatory Method:				AAB #: <u>G97CC00C</u>		
Lab Name: DCHM		Contra	ct #: F416	24-94-D-80					
Field Sample ID: NH9	Field Sample ID: NH90SGW001 Lab Sample ID: 97C05549 Matrix: WG						x: WG		
% Solids:	Ini	tial Calibration ID: _							
Date Received: 05-Dec-1997 00:00 Date Extracted: Date Analyzed: 11-Dec-1997 16:45							45		
Concentration Units (u	g/L or mg/KG dry	weight): ug/L							
								7 20	
	Analyte	MDL	RL	Concentrati	on	Dilution	Qualifier		
Benzene		0.311	1		210		D	コマルカ	
Ethylbenzene		0.296	1		370		D	」す	
Toluene		0.318			318		ט	J R	
m,p-Xylene		0.622			000		D		
o-Xylene		0.321			0.97	1	J] F	
	Surrogate	Recover	у Со	ntrol Limits		Qualifier			
1,2-D	ichloroethane-D4		00.	76.0-114.			0		
4-Bro	omoFluorobenzene		7.4	86.0-115.			low		
Tolue	ene-D8	1	02.	88.0-110.					
Comments:			R(2)4	/ 9	jt _		 	



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nalytical Method: 8260 Preparatory Method:				AAB #: G97CC00C			_	
Lab Name: DCHM	Contra	act #: F4162	4-94-D-80				•	
Field Sample ID: NH95SGW001	Lab Sample	Lab Sample ID: 97C05550			Matrix: WG			
% Solids:	Initial Calibration ID: _							
Date Received: 05-Dec-1997 00:00	Date Extracted: _			Date Analyzed: 11-Dec-1997 17:10			6	
Concentration Units (ug/L or mg/KG d	ry weight): ug/L							
Analyte	MDL	RL	Concentrati	on Dilution	n	Qualifier	<u> V</u> 4	
Benzene	0.311	1		24.	1		1=	
Ethylbenzene	0.296	1		1.2)	1		 - 	
Toluene	0.318	1	0.	318	1	ប	1 U	
m,p-Xylene	0.622	1	(2.7)	1] _	
o-Xylene	0.321	1	0.	321	1	U		
Surrogate	Recover	y Cont	rol Limits	Qualifier				
1,2-Dichloroethane-I	04 9	5.6	76.0-114.					
4-BromoFluorobenze	ene 9	7.5	86.0-115.					
Toluene-D8	S	9.7	88.0-110.					
,								
Comments:								
				_			_	
	Λ	()	14/91	<u> </u>			_	
	<u> </u>		1 / 10				-	



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Analytical Met	eparatory Method:	ratory Method: AA			.B #: <u>G97C0</u>	C00C		
Lab Name: DO	CHM	Contract	#: <u>F4162</u>	4-94-D-80				
Field Sample II	D: N8B1EGW001	Lab Sample ID): <u>97C055</u>	542MS		_ Matrix	: <u>WG</u>	
% Solids:	Initial C	Calibration ID:						
Date Received:	ate Received: 05-Dec-1997 00:00 Date Extracted: Date Analyzed: 11-Dec-1997 12:37						7	
Concentration 1	Units (ug/L or mg/KG dry weigh	t): ug/L						
	Analyte	MDL	RL	Concentration	n l	Dilution	Qualifier	<u> </u>
Benzene		0.311	1	/9.42		1		-
Ethylbenzen	e	0.296	1	/ 9.	95	1		-
Toluene		0.318	1		7.6	1		-
m,p-Xylene		0.622	1		20.	1		-
o-Xylene		0.321	1	\ 9	9.7/	1		-
	Surrogate	Recovery	Conf	rol Limits	Qu	alifier		
	1,2-Dichloroethane-D4	94.8	3	76.0-114.				
	4-BromoFluorobenzene	95.6	<u> </u>	86.0-115.				
	4-Didilior iddicoccine			88.0-110.		B .		



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Analytical Method: 8260 Preparatory Method:					. A	AB #: <u>G970</u>	CC00C	-
Lab Name: DCHM	_	Contrac	ct#: <u>F4162</u>	4-94-D-80				
Field Sample ID: N8B1EGW001	Lab	Sample 1	ID: <u>97C055</u>	42MSD	Matrix: WG			
% Solids:	Initial Calibration	n ID:						
Date Received: 05-Dec-1997 00:00 Date Extracted: Date Analyzed: 11-Dec-1997 13:0						3		
Concentration Units (ug/L or mg.	KG dry weight): ug/L							
Analyte	M	DL	RL	Concentrat	ion	Dilution	Qualifier	Δ
Benzene		0.311	1		9.31	. 1		-
Ethylbenzene		0.296	1	7	9.78] 1		_
Toluene		0.318	1		17.1	1		_
m,p-Xylene		0.622	1		20.	1		_
o-Xylene		0.321	1		9.5	1		_
Sur	rogate R	есочегу	Cont	rol Limits	Q	ualifier		
1,2-Dichloroeth		94	1.9	76.0-114.	1			
4-BromoFluoro			5.5	86.0-115.				
Toluene-D8		99	9.3	88.0-110.				
Comments:				()			
			R	(2)	4/ 4	1		· ·



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Report No.: 98AFO0006

Analytical Method: T0-14	Preparatory Method:	AAB #:	G97CH024
Lab Name: DCHM	Contract #: <u>F41624-94-D-80</u>		
Field Sample ID: NSS8BS 2001	Lab Sample ID: 97C05590		Matrix: AIR
% Solids:	Initial Calibration ID:		
Date Received: 05-Dec-1997 00:00	Date Extracted:	Date Analy	zed: 16-Dec-1997 18:12
Concentration Units (ug/L. or mg/KG dr	v weight): PPR V/V		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24		U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	(7.8)	1	
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34		U
1,3,5-Trimethylbenzene	0.40	2.0	(1.8)	1	J
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	4.4	1	J
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	(2.3)	1	
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	(7.7)	1	J
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	Ŭ
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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Analytical Method: T0-14	Preparatory Method:	_ AAB #:	G97CH024
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: NSS8BS¥001	Lab Sample ID: 97C05590		Matrix: AIR
% Solids:	Initial Calibration ID:		
Date Received: <u>05-Dec-1997 00:00</u>	Date Extracted:	Date Analy	zed: 16-Dec-1997 18:12
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	(2.5)) 1	
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	5.4) 1	
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0,44	1	U
Toluene	0.63	2.0	(1.6)	1	J
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0,34	1	U
m,p-Xylene	0.80	2.0	(6.8)) 1	
o-Xylene	0.61	2.0	0.61	1	Ŭ
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

Comments:		. 1	
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Report No.: 98AFO0006

Analytical Method: T0-14 Preparatory Method:		AAB #: <u>G97CH024</u>
Lab Name: DCHM	Contract #: <u>F41624-94-D-80</u>	
Field Sample ID: NSS8BSV101	Lab Sample ID: 97C05591	Matrix: AIR
% Solids:	Initial Calibration ID:	
Date Received: 05-Dec-1997 00:00	Date Extracted:	Date Analyzed: 16-Dec-1997 18:56
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27		U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	2	U
1,1,2-Trichloroethane	0.24	2.0	0.24	2	ប
1,1-Dichloroethane	0.33	2.0	0.33	2	บ
1,1-Dichloroethene	0.52	2.0	0.52	2	U
1,2,4-Trichlorobenzene	1.5	4.0	1,5	2	Ŭ
1,2,4-Trimethylbenzene	0.37	2.0	(11.) 2	
1,2-Dibromoethane	0.37	2.0	0.37	2	U
1,2-Dichlorobenzene	0.22	2.0	0.22	2	Ŭ
1,2-Dichloroethane	0.37	2.0	0.37	2	U
1,2-Dichloropropane	0.34	2.0	0.34	2	บ
1,3,5-Trimethylbenzene	0.40	2.0	0.40	2	U
1,3-Dichlorobenzene	0.20	2.0	0.20	2	U
1,4-Dichlorobenzene	0.29	2.0	0.29	2	U
2-Butanone	1.2	10.0	1.2	2	U
2-Hexanone	0.67	4.0	0.67	2	U
4-Ethyl toluene	0.70	2.0	0.70	2	บ
4-Methyl-2-Pentanone	0.80	4.0	0.80	2	บ
Acetone	1.1	10.0	1.1	2	U
Benzene	0.41	2.0	0.41	2	U
Benzyl Chloride	0.36	2.0	0.36	2.	U
Bromodichloromethane	0.43	2.0	0.43	2	U
Bromoform	0.27	2.0	0.27	2	U
Bromomethane	0.53	2.0	0.53	2	U
Carbon Disulfide	0.61	10.0	0.61	2	บ
Carbon Tetrachloride	0.35	2.0	0.35	2	U
Chlorobenzene	0.39	2.0	0.39	2	U
Chloroethane	1.4	4.0	1.4		U
Chloroform	0.35	2.0	0.35	2	U
Chloromethane	0.62	4.0	0.62		Ū
Dibromochloromethane	0.48	2.0	0.48	2	

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Analytical Method: T0-14	Preparatory Method:	AAB#:	G97CH024
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: NSS8BSX101	Lab Sample ID: 97C05591		Matrix: AIR
% Solids:	Initial Calibration ID:		
Date Received: 05-Dec-1997 00:00	Date Extracted:	Date Analys	zed: 16-Dec-1997 18:56
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0,45	2	U
Ethylbenzene	0.62	2.0	(2.5	2	
Freon 113	0.16	2.0	0.16	2	U
Freon 114	0.70	2.0	0.70	_ 2	U
Freon 11	0.20	2.0	(6.3	2	
Hexachlorobutadiene	1.9	4.0	1.9	2	U
Methylene Chloride	0.33	2.0	0.33	2	U
Styrene	0.27	2.0	0.27	2	U
Tetrachloroethene	0.44	2.0	0.44	2	ប
Toluene	0.63	2.0	0.63	2	U
Trichloroethene	0.53	2.0	0.53	2	U
Vinyl Acetate	0.86	10.0	0.86	2	U
Vinyl Chloride	0.58	2.0	0.58	2	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	2	U
cis-1,3-Dichloropropene	0.34	2.0	0,34	2	U
m,p-Xylene	0.80	2.0	(5.2) 2	
o-Xylene	0.61	2.0	0.61	2	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	2	U .
trans-1,3-Dichloropropene	0.44	2.0	0.44	2	U

Comments:	R(2/4) 98	



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Analytical Method: T0-14	alytical Method: T0-14 Preparatory Method:		G97CH024
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: NSS8BSVAB1	Lab Sample ID: 97C05592		Matrix: AIR
% Solids:	Initial Calibration ID:		
Date Received: <u>05-Dec-1997 00:00</u>	Date Extracted:	Date Analy	zed: 16-Dec-1997 19:40
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52		U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	0.37	1	U
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	0.40	1	U
1,3-Dichlorobenzene	0.20	2.0	0.20		U
1,4-Dichlorobenzene	0.29	2.0	0.29		U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	0.70	1	U .
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U .
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

R(2)\$198



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Analytical Method: T0-14	Preparatory Metho	d:	AAB #: G97CH024			
Lab Name: DCHM	Contrac	t#: F4162	4-94-D-80			
Field Sample ID: NSS8BSVAB1	ĭ ah Sample l	Lab Sample ID: 97C05592 Matrix: AIR				
AST 2/16/98					· Aux	
% Solids: Ini	itial Calibration ID:		****			
Date Received: 05-Dec-1997 00:00	Date Extracted:		Dat	e Analyzed: 16	-Dec-1997 19:40	
Concentration Units (ug/L or mg/KG dry						
concentation onto (ug 2 or mg) to ury	weight). 11 B V/V					
Analyt e	MDL	RL	Concentration	Dilution	Qualifier	
Dichlorodifluoromethane	0.45	2.0	0.45	1	U	
Ethylbenzene	0.62	2.0	0.62	1	U	
Freon 113	0.16	2.0	0.16	1	U	
Freon 114	0.70	2.0	0.70	1	U	
Freon 11	0.20	2.0	0.20	1	U	
Hexachlorobutadiene	1.9	4.0	1.9	1	U	
Methylene Chloride	0.33	2.0	0.33	1	U	
Styrene	0.27	2.0	0.27	1	U	
Tetrachloroethene	0.44	2.0	0.44	1	U	
Toluene	0.63	2.0	0.63	1	U	
Trichloroethene	0.53	2.0	0.53	1	U	
Vinyl Acetate	0.86	10.0	0.86	1	U	
Vinyl Chloride	0.58	2.0	0.58	1	U	
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U	
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U	
m,p-Xylene	0.80	2.0	0.80	1	U	
	0.61	2.0	0.61	1	U	
o-Xylene			0.64	1	II	
o-Xylene trans-1,2-Dichloroethene	0.64	2.00	ا ۲۰۰۰	* I	· ,	



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Report No.: 98AFO0006

Analytical Method: T0-14	Preparatory Method:	_ AAB #:	G97CH024
Lab Name: DCHM	Contract #: <u>F41624-94-D-80</u>		
Field Sample ID: NSS8BSVTB1	Lab Sample ID: 97C05593		Matrix: AIR
% Solids:	Initial Calibration ID:		
Date Received: 05-Dec-1997 00:00	Date Extracted:	Date Analy:	zed: 16-Dec-1997 20:24
Concentration Units (119/1, or mg/KG)	dry weight): PPR V/V		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	บ
1,1-Dichloroethene	0.52	2.0	0.52	1	ט
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	ប
1,2,4-Trimethylbenzene	0.37	2.0	0.37	1	ប
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	0.40	1	U
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1.	บ
2-Butanone	1.2	10.0	1.2	1	ប
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	0.70	1	U
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U .
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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Analytical Method: T0-14	Preparatory Method:			AAB #: G97CH024		
Lab Name: DCHM	Contrac	t#: <u>F4162</u>	4-94-D-80			
Field Sample ID: NSS8BSVTB1	Lab Sample	D: <u>97C05</u> 5	593	Matri	ix: AIR	
% Solids:	Initial Calibration ID:					
Date Received: 05-Dec-1997 00:00	Date Extracted:		D	ate Analyzed: 10	6-Dec-1997 20:2	!4
Concentration Units (ug/L or mg/KG d	ry weight): PPB V/V					
Analyte	MDL	RL	Concentration	Dilution	Qualifier] V
Dichlorodifluoromethane	0.45	2.0	0.4	5 1	U	1 7

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	บ
Ethylbenzene	0.62	2.0	0.62	1	U
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	บ
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	0.80	1	U
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

Comments:		
	0(2)4/98	
	RC M	

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1CGW001

Lab Sample ID:

97C05599

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 12:58

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	160	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1DGW001

Lab Sample ID:

97C05600

% Solids:

N/A

Initial Calibration ID:

SF6-1230

R(2)4/91

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 13:08

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	680	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1¢GW101

Lab Sample ID:

97C05601

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 13:16

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	430	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

R(2)9/9/

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1EGW001

Lab Sample ID:

97C05602

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 13:23

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	650	1	•

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2)4/98

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2CGW001

Lab Sample ID:

97C05603

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 13:31

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	260	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None. R(2/4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2DGW001

Lab Sample ID:

97C05604

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 13:39

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	200	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifie	
N/A	N/A	

Comments: None.

R(2)4/98

Analytical Method: Custom Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2EGW001

Lab Sample ID:

97C05605

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 13:46

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2)4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B3CGW001

Lab Sample ID:

97C05606

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 13:54

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	84	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None. R(2)4)98

Analytical Method: Custom Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B3DGW001

Lab Sample ID:

97C05607

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 14:02

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	430	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

R(2)4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B4CGW001

Lab Sample ID:

97C05608

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 14:10

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	110	1	

Surrogate	Recovery	Control Limits	Qualifier	
N/A	N/A	N/A	N/A	

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2)4/9F

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B4CGW101

Lab Sample ID:

97C05609

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 14:18

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	140	1	

Surrogate	Recovery Control Limits		Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

R(2)4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B4DGW001

Lab Sample ID:

97C05610

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 14:25

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	150	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

R(2/4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #: F41624-94-D-8066/D0007

Field Sample ID:

N8B5CGW001

Lab Sample ID:

97C05611

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 14:33

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2)4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC09

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B5DGW001

Lab Sample ID:

97C05612

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 14:41

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None. R(2/4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B5CGW002

Lab Sample ID:

97C05646

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 15:04

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	62	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

RC 2/4/9+

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B5DGW002

Lab Sample ID:

97C05647

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 15:12

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	180	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None. R(2)4/98

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B4CGW002

Lab Sample ID:

97C05648

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 15:20

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	80	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B4DGW002

Lab Sample ID:

97C05649

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 15:27

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	170	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B3CGW002

Lab Sample ID:

97C05650

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 15:35

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	220	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None. R(2)4)98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B3DGW002

Lab Sample ID:

97C05651

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 15:43

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	290	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2CGW002

Lab Sample ID:

97C05652

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 15:51

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	210	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2)4)98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

R(2)4/98

Field Sample ID:

N8B2DGW002

Lab Sample ID:

97C05653

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 15:58

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	290	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2EGW002

Lab Sample ID:

97C05654

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 16:06

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None. R(2)4)98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2EGW102

Lab Sample ID:

97C05655

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 16:14

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(e)4/98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1CGW002

Lab Sample ID:

97C05656

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 16:22

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	93	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1DGW002

Lab Sample ID:

97C05657

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 16:29

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	120	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC13

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1EGW002

Lab Sample ID:

97C05658

% Solids:

N/A

Initial Calibration ID:

SF6-1230

Date Received: 12/11/97

Date Extracted: N/A

Date Analyzed: 12/30/97 16:37

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	140	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B5CGW003

Lab Sample ID:

97C05793

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 12:58

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	140	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

R(2)4/9+

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B5DGW003

Lab Sample ID:

97C05794

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 13:06

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	450	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

R(2)4)98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B4CGW003

Lab Sample ID:

97C05795

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 13:13

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	210	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B4DGW003

Lab Sample ID:

97C05796

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 13:21

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	540	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B3CGW003

Lab Sample ID:

97C05797

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 13:29

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	55	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B3CGW103

Lab Sample ID:

97C05798

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 13:36

R(2)4/98

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	190	1	

<u>VQ</u>

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

0506

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B3DGW003

Lab Sample ID:

97C05799

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 13:44

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	370	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

R(2)4/9F

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2CGW003

Lab Sample ID:

97C05800

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 13:52

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	560	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2DGW003

Lab Sample ID:

97C05801

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 13:59

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	510	1	

<u>V4</u>

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

p(2)4)98

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B2EGW003

Lab Sample ID:

97C05802

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 14:07

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem.Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1CGW003

Lab Sample ID:

97C05803

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 14:15

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	380	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier	
N/A	N/A	

Comments: None.

Analytical Method: Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1DGW003

Lab Sample ID:

97C05804

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 14:22

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1400	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.

P(2)498

Analytical Method:

Custom

Preparatory Method: N/A

SDG#:

DEC14

Lab Name:

DataChem Laboratories

Contract #:

F41624-94-D-8066/D0007

Field Sample ID:

N8B1EGW003

Lab Sample ID:

97C05805

% Solids:

N/A

Initial Calibration ID:

SF6-0106

Date Received: 12/17/97

Date Extracted: N/A

Date Analyzed: 01/06/98 14:30

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	970	1	

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments:

None.



30-Jan-1998 17:51

Page 3 of 6

Report No.: 98AFO0009

Analytical Method: T0-14	Preparatory Method:	AAB #: <u>G97CH024</u>
Lab Name: DCHM	Contract #: F41624-94-D-80	
Field Sample ID: NSS8BSU002	Lab Sample ID: 97C05680	Matrix: AIR
% Solids:	Initial Calibration ID:	
Date Received: 15-Dec-1997 00:00	Date Extracted:	Date Analyzed: 16-Dec-1997 21:08
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	1.5	1	J
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	0.40	1	U
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	0.70	1	U
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	บ
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U



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Report No.: 98AFO0009

Analytical Method: T0-14	Preparatory Method:	AAB #: <u>G97CH024</u>
Lab Name: DCHM	Contract #: F41624-94-D-80	
Field Sample ID: NSS8BSU002	Lab Sample ID: 97C05680	Matrix: AIR
% Solids:	Initial Calibration ID:	
Date Received: 15-Dec-1997 00:00	Date Extracted:	Date Analyzed: 16-Dec-1997 21:08
Concentration Units (ug/L or mg/KG	dry weight): PPB V/V	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	0.62	1	U
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	1.2	1	J
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	0.80	1	U
o-Xylene	0.61	2.0	0.61	1	บ
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

Comments:				

R(2)5/9F
AFCEE FORM 0-2

0557



FORM G (TYPE I) SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET SURROGATE SUMMARY

Form RLIMS63G-V1.3 01119822543980

Page 10



Client Name..... AmTech Engineering, Inc.

Release Number....: DEC17

Matrix....: WATER Reporting Units....: ug/L

Date Printed....: 11-JAN-98 22:54

DCL Analysis Group: G97CP024 Analysis Method...: OL-SW-8310-UV

DCL Prep Group...: G97CP024 Preparation Method: 3510

QC Limit Type....: Method

Web Page: www.datachem.com

E-mail: lab@datachem.com

Surrogate Recoveries

Surr. ID		uorobiphe	nyl						
QC Limits	5	0.0/150.						0173	7 .
DCL Sample Number	Analyte Result	Spiked Amount	Rec. Q	Analyte Result	Spiked Amount	Rec. 0	Analyte Result	Spiked Amount	Rec.
97C05791	46.3	50.0	92.6						
97C05792	45.8	50.0	91.6						
97C05793	44.8	50.0	89.6						
97E03655	48.0	50.0	96.0						
BL-143549-1	43.9	50.0	87.8						<u> </u>
OC-143549-1	43.0	50.0	86.0						
OC-143549-2	45.3	50.0	90.6			11.	·		

Botch 97C-0507-01 PNA'S
R(2)5/9F



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Report No.: 98AFI0001

Analytical Method: 7421	Preparatory Method: 3015			AAB #: <u>G97C</u>	Q01M	
Lab Name: DCHM	Contrac	t#: <u>F4162</u>	4-94-D-80			
Field Sample ID: N0393EB002	Lab Sample I	D: <u>97C057</u>	91	Matri	x: <u>WQ</u>	
% Solids:	Initial Calibration ID:					
Date Received: 17-Dec-1997 00:00	Date Extracted: 23-	Dec-1997 (00:00 Dat	e Analyzed: 23	3-Dec-1997 18:54	
Concentration Units (ug/L or mg/KG of	lry weight): ug/L					
						,
Analyte	MDL	RL	Concentration	Dilution	Qualifier	V
Lead	1.72	3.0	1.72	1	U	V
Comments:	R	2)	5/98			



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Page 2 of 8

Report No.: 98AFI0001

Analytical Method: 7421	Preparatory Method: 3015			AAB #: <u>G97C</u>	Q01M	
Lab Name: DCHM	Contrac	t#: <u>F4162</u>	4-94-D-80			
Field Sample ID: N0393GW001	Lab Sample l	D: <u>97C057</u>	92	Matri	x: WG	_
% Solids:	Initial Calibration ID:					
Date Received: 17-Dec-1997 00:00	Date Extracted: 23-	Dec-1997 (00:00 Date	e Analyzed: 23	3-Dec-1997 19:10	
Concentration Units (ug/L or mg/KG	dry weight): ug/L					
Analyte	MDL	RL	Concentration	Dilution	Qualifier	VQ
Lead	1.72	3.0	1.72	1	U	U
Comments:		,	Q(2)	S/98		



29-Jan-1998 16:18 Page 3 of 8

Report No.: 98AFI0001

Analytical Method: 7421	Preparatory Method: 3015			AAB #: <u>G97C</u>	QUIM	_
Lab Name: DCHM	Contrac	ct #: <u>F4162</u>	4-94-D-80			
Field Sample ID: N0393GW101	Lab Sample	ID: <u>97C057</u>	93	Matri	x: <u>WG</u>	
% Solids:	Initial Calibration ID:					
Date Received: 17-Dec-1997 00:00	Date Extracted: 23	-Dec-1997 (00:00 Dat	e Analyzed: 23	3-Dec-1997 19:1	3
Concentration Units (ug/L or mg/KG	dry weight): ug/L					
Analyte	MDL	RL	Concentration	Dilution	Qualifier	VQ
Lead	1.72	3.0	1.72	1	U	u
Comments:		R	(2)5)g F		- - -



30-Jan-1998 17:40 Page 1 of 6

Report No.: 98AFO0012

Analytical Method: 8260	Preparatory Method:	AAB #: <u>G980K004</u>
Lab Name: DCHM	Contract #: <u>F41624-94-D-80</u>	
Field Sample ID: N0393VE009	Lab Sample ID: 97C05783	Matrix: SO
% Solids: 3.40	Initial Calibration ID:	
Date Received: 17-Dec-1997 00:00	Date Extracted:	Date Analyzed: 25-Dec-1997 16:46
Concentration Units (ug/L or mg/KG	dry weight): mg/Kg	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.0030	0.052	0.0030	10	U
Ethylbenzene	0.0030	0.052	0.0030	10	U
methyl-t-butyl ether	0.0068	0.052	0.0068	10	บ
Toluene	0.0068	0.052	0.0068	10	U
Total Xylenes	0.013	0.16	0.013	. 10	U

Y CO C C C +

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	95.2	70.0-121.	
4-BromoFluorobenzene	102.	74.0-121.	
Toluene-D8	95.4	81.0-117.	

سرا

Comments:		
	0(2)0)98	
	/ / / / / / / / / / / / / / / / / / / /	



30-Jan-1998 17:40 Page 2 of 6

Report No.: 98AFO0012

Analytical Method: 8260	Preparatory Method:	AAB #: <u>G980K004</u>
Lab Name: DCHM	Contract #: F41624-94-D-80	
Field Sample ID: N0393VE109	Lab Sample ID: 97C05784	Matrix: SO
% Solids: 4.60	Initial Calibration ID:	
Date Received: 17-Dec-1997 00:00	Date Extracted:	Date Analyzed: 25-Dec-1997 17:17
Concentration Units (ug/L or mg/KG	dry weight): mg/Kg	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.0030	0.052	0.0030	10	U
Ethylbenzene	0.0031	0.052	0.37) 10	-
methyl-t-butyl ether	0.0068	0.052	0.0068	10	U
Toluene	0.0069	0.052	0.079	10	
Total Xylenes	0.013	0.16	1.9	10	

96.7

103.

97.3

74.0-121.

81.0-117.

Recovery

Surrogate

1,2-Dichloroethane-D4

4-BromoFluorobenzene

Toluene-D8

7.052	0.00	00	10	U	
).052	(0.0	79>	10		7
0.16		1.9	10		Y
Control	Limits	Qualit	fier		
	70.0-121.				

Comments:)
	R(2)5/98



28-Jan-1998 18:35 Page 1 of 6

Report No.: 98AFO0013

Analytical Method: 8310	Preparatory Method: 3550	AAB #: <u>G97CX015</u>
ab Name: DCHM	Contract #: F41624-94-I	D-80
Field Sample ID: N0393VE009	Lab Sample ID: 97C05785	Matrix: SO
6 Solids:	Initial Calibration ID:	
Date Received: 17-Dec-1997 00:00	Date Extracted: 29-Dec-1997 00:00	Date Analyzed: 11-Jan-1998 01:15
Concentration Units (ug/L or mg/KG of	lry weight): mg/KG	
	NOT DI Con	gentration Dilution Qualifier

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.0144	0.017	(0.016)	1	J
Acenaphthylene	0.0238	0.033	0.39	1	
Anthracene	0.000903	0.0017	(0.0013) 1	J
Benzo(a)anthracene	0.00104	0.0017	0.0057	1	
Benzo(a)pyrene	0.00160	0.0017	(0.0069)	1	
Benzo(b)fluoranthene	0.00161	0.0033	0.0031)	1	J
Benzo(ghi)perylene	0.00272	0.0033	0.00272	1	U
Benzo(k)fluoranthene	0.00126	0.0017	0.00126	1	บ
Chrysene	0.00135	0.0017	0.0044	1	
Dibenzo(a,h)anthracene	0.00240	0.0033	0.00240	1	บ
Fluoranthrene	0.00220	0.0033	(0.016)	1	
Fluorene	0.00220	0.0033	(0.013)	1	
Indeno(1,2,3-cd)pyrene	0.00119	0.0017	0.00119	1	ט
Naphthalene	0.0156	0.017	4.0) 10	D
Phenanthrene	0.00104	0.0017	6,0052	1	
Pyrene	0.00142	0.0017	(0.0061)	1	

omments:				
	survegate	Movery	DEBF-5190	
		RC	2)5/98	

0794



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Report No.: 98AFO0013

Analytical Method: 8310	nalytical Method: 8310 Preparatory Method: 3550		CX015
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: N0393VE109	Lab Sample ID: 97C05786	Matr	ix: <u>SO</u>
% Solids:	Initial Calibration ID:		
Date Received: 17-Dec-1997 00:00	Date Extracted: 29-Dec-1997 00:00	Date Analyzed: 1	1-Jan-1998 04:26
Concentration Units (ug/L or mg/KG	dry weight): mg/KG		

Analyte	MDL	RL	Concentration	Dilution	Qualifier	
Acenaphthene	0.0144	0.017	(0.059)	1] :
Acenaphthylene	0.0238	0.033	(0.90)	1]j
Anthracene	0.000903	0.0017	0.000903	1	U] (
Benzo(a)anthracene	0.00104	0.0017	0.0099	1]
Benzo(a)pyrene	0.00160	0.0017	0.0041	1]]
Benzo(b)fluoranthene	0.00161	0.0033	0.0077	1] =
Benzo(ghi)perylene	0.00272	0.0033	0.011	1		$_{7}$
Benzo(k)fluoranthene	0.00126	0.0017	0.0027	1		2.5
Chrysene	0.00135	0.0017	0.0074	1		77
Dibenzo(a,h)anthracene	0.00240	0.0033	0.00240	1	U] [
Fluoranthrene	0.00220	0.0033	0.024	1] -
Fluorene	0.00220	0.0033	0.033	1		7 -
Indeno(1,2,3-cd)pyrene	0.00119	0.0017	0.0068	1] 🗎
Naphthalene	0.0156	0.017	8.2	10	D	75
Phenanthrene	0.00104	0.0017	0.0084	1		7 -
Pyrene	0.00142	0.0017	0.10	1		7 -

omments:				
	Surcognite	Marey- 1	OFBF = 30 %	
		,		
		a (215/98	

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FORM G (TYPE I) SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET SURROGATE SUMMARY

Form RLIMS63G-V1.3 01149823114391 Page 11

Client Name..... AmTech Engineering, Inc.

Release Number....: DEC17

Matrix..... SOIL Reporting Units....: ug/g Date Printed....: 14-JAN-98 23:11

DCL Analysis Group: G97CX015 Analysis Method...: OL-SW-8310-UV

DCL Prep Group....: G97CX015 Preparation Method: 3550

QC Limit Type....: Method

Surrogate Recoveries

Surr. ID		uorobiphe	nyl								
QC Limits	3	0.0/150.									
DCL Sample Number	Analyte Result	Spiked Amount	Rec.	Q	Analyte Result	Spiked Amount	Rec. Q	Analyte Result	Spiked Amount	Rec.	o
97C05785	0.856	1.67	51.3				<u> </u>				Ш
97C05785MS	0.497	1.67	29.8	8							$\bot \bot$
97C05785MSD	0.565	1.67	33.8								Ш
97C05786	0.765	1.67	45.8	Ц							44
BL-143640-1	1.52	1.67	91.0	Ц						4	$\perp \mid$
QC-143640-1	1.46	1.67	87.4								Ш

29,8 ≈ 30 %

L(2)5/98



29-Jan-1998 16:22 Page 1 of 7 Report No.: 98AFI0002

Analytical Method: 7421	Preparatory Method: 3051			AAB #: G97CQ01L		
Lab Name: DCHM	Contract #: F41624-94-D-80					
Field Sample ID: N0393VE009	Lab Sample ID: 97C05787			Matrix: SO		
% Solids: 3.40	Initial Calibration ID:	-				
Date Received: 17-Dec-1997 00:00 Date Extracted: 23-Dec-1997 00:00 Date Analyzed: 23-Dec-1997 19:32						*******
Concentration Units (ug/L or mg/KG dry weight): mg/kg						
Analyte	MDL	RL	Concentration	Dilution	Qualifier	V
Lead	0.0595	0.311	4.99	1		,
Comments:	R(2)	5/ 1	? r			



29-Jan-1998 16:22 Page 2 of 7 Report No.: 98AFI0002

Analytical Method: 7421	Preparatory Method	i: <u>3051</u>		AAB #: <u>G97CC</u>	Q01L	-
Lab Name: DCHM	Contract #: F41624-94-D-80					
Field Sample ID: N0393VE109	Lab Sample l	D: <u>97C057</u>	88	Matrix:	SO	
% Solids: 4.60	Initial Calibration ID:					
Date Received: 17-Dec-1997 00:00	Date Extracted: 23-	Dec-1997 (00:00 Date	Analyzed: 23-	Dec-1997 19:45	<u> </u>
Concentration Units (ug/L or mg/KG	dry weight): mg/kg	RL	Concentration	Dilution	Qualifier	V.
Lead	0.0595	0.314	5.84	1		_
Comments:						



23-Jan-1998 15:14 Page 1 of 8

Prep	Preparatory Method:				AB #: <u>G980</u>	K003	
	Contra	ct #: <u>F4162</u>	4-94-D-80				
B002	Lab Sample	Lab Sample ID: 97C05781			Matrix: WQ		
Initial Cali	bration ID:	P					
97 00:00 Date	Extracted:			Date A	Analyzed: 24	4-Dec-1997 12:35	
or mg/KG dry weight):	ug/L						
lyte	MDI.	RI.	Concentrati	on I	Dilution	Qualifier	
.,,					<u> </u>	U	
	0.237				1	U	
. t.	0.439	5			1	U	
	0.183	5	0.	183	1	U	
	0.153	15	0.	153	1	U .	
Surrogate	Recovery	Cont	rol Limits	Qı	alifier	(
oroethane-D4	9:	8.3	76.0-114.				
•	0	8.5	86.0-115.				
orobenzene	9	0.0	00.0 110.				
	op7 00:00 Date or mg/KG dry weight): lyte Surrogate	Initial Calibration ID:	Initial Calibration ID: 97C057	Initial Calibration ID:	Initial Calibration ID:	Initial Calibration ID:	



23-Jan-1998 15:14 Page 2 of 8

Analytical Method: 8260 Prepa	aratory Meth	od:		AAB #: <u>G980</u>	K003	
Lab Name: DCHM	Contra	act #: F4162	4-94-D-80			
Field Sample ID: N0393TB002	Lab Sample	iD: <u>97C05</u>	782	Matri	ix: WQ	_
% Solids: Initial Cali	bration ID: _					
Date Received: 17-Dec-1997 00:00 Date	Extracted: _			Date Analyzed: 2	4-Dec-1997 13:06	
Concentration Units (ug/L or mg/KG dry weight):	ug/L					
Analyte	MDL	RL	Concentrati	on Dilution	Qualifier	VQ
Benzene	0.144	5	0.	144 1	U	U
Ethylbenzene	0.237	5	0.	237 1	U	Ĭ
methyl-t-butyl ether	0.439	5	0.	439 1	U	1
Toluene	0.183	5	0.	183 1	U	1
Total Xylenes	0.153	15	0.	153 1	U	Ü
Surrogate	Recover	y Con	trol Limits	Qualifier		
1,2-Dichloroethane-D4	9	7.4	76.0-114.			
Bromofluorobenzene	9	7.8	86.0-115.			
Toluene-D8	9	8.4	88.0-110.			
Comments						
Comments:						
		1	10	101		
		RI	215	198		
		- \		- /		



23-Jan-1998 15:14 Page 3 of 8

	Lab Sample alibration ID:te Extracted:		789			x: <u>WG</u> 4-Dec-1997 13:36
Initial Ca	alibration ID: te Extracted: t): ug/L MDL					
00 Da	te Extracted:;): ug/L				yzed: <u>2</u> 4	4-Dec-1997 13:36
	i): ug/L				yzed: <u>2</u> 4	4-Dec-1997 13:36
KG dry weight	MDL	RL	Concentration			
		RL	Concentratio	·		
		RL	Concentratio			
	0.144		Concentration	on Dil	ution	Qualifier
	0.144	5		78. <i>)</i>)	1	
	0.237	5		50	1	
	0.439	5			1	U
	0.183	5		20,)	1	
*	0.153	15		250	1	
rogate	Recover	y Cont	rol Limits	Qualifi	er	
ane-D4	9	8.1	76.0-114.			
nzene	9	9.5	86.0-115.			
	1	01.	88.0-110.			
l	ane-D4	ane-D4 9	ane-D4 98.1	nane-D4 98.1 76.0-114. nzene 99.5 86.0-115.	nane-D4 98.1 76.0-114. nzene 99.5 86.0-115.	nane-D4 98.1 76.0-114. nzene 99.5 86.0-115.



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Analytical Metho	eal Method: 8260 Preparatory Method:					80K003	_
Lab Name: DCI	HM	Contra	act #: F4162	4-94-D-80			
Field Sample ID:	: N0393GW101	Lab Sample	ID: <u>97C05</u>	790	Mar	trix: WG	
% Solids:	Initia	l Calibration ID: _					
Date Received:	17-Dec-1997 00:00	Date Extracted: _			Date Analyzed:	24-Dec-1997 15:0	8
Concentration U	nits (ug/L or mg/KG dry we	ight): ug/L					
	Analyte	MDL	RL	Concentration	on Dilution	Qualifier	- Ya
Benzene		0.144	5		80.	1	_
Ethylbenzene		0.237	5		150	1	
methyl-t-buty		0.439	5	0.	439	1 U	
Toluene		0.183	5		21.	1	ļ —
Total Xylenes		0.153	15		260	1] _
	Surrogate	Recover	y Con	trol Limits	Qualifier		
	1,2-Dichloroethane-D4	9	99.3	76.0-114.			
	Bromofluorobenzene]	102.	86.0-115.			
	Toluene-D8		102.	88.0-110.			
						~	
Comments:	god	felc	d du	yst; co	ate pr	lessor	<u>\</u> -
		p(9	15/9	î 8		-
		~ (, , , ,			



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Report No.: 98AFO0011

Analytical Method: 8310	Preparatory Method: 3510		G97CP024
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: N0393EB002	Lab Sample ID: 97C05791		Matrix: WQ
% Solids:	Initial Calibration ID:		
Date Received: 17-Dec-1997 00:00	Date Extracted: 22-Dec-1997 00:00	Date Analy	zed: 31-Dec-1997 04:00
Concentration Units (ug/L or mg/KG	dry weight): ug/L		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.452	0.50	0.452	1	U
Acenaphthylene	0.433	1.0	0.433	1	U
Anthracene	0.0259	0.050	0.0259	1	U
Benzo(a)anthracene	0.0265	0.050	0.0265	1	U
Benzo(a)pyrene	0.0325	0.050	0.0325	1	U
Benzo(b)fluoranthene	0.0467	0.10	0.0467	1	υ
Benzo(ghi)perylene	0.0713	0.100	0.0713	1	U
Benzo(k)fluoranthene	0.0258	0.050	0.0258	1	U
Chrysene	0.0462	0.050	0.0462	1	U
Dibenzo(a,h)anthracene	0.0351	0.100	0.0351	1	U
Fluoranthene	0.0924	0.100	0.0924	1	U
Fluorene	0.0590	0.10	0.52) 1	
Indeno(1,2,3-cd)pyrene	0.0351	80.050	0.0351	1	U
Naphthalene	0.252	0.50	0.252	1	U
Phenanthrene	0.0297	0.050	0.0297	1	บ
Pyrene	0.0435	0.050	0.0435	1	U

Comments:	surragase	-DFBF	935	<i>7</i> 0		
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			R	2)57	98	



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Report No.: 98AFO0011

nalytical Method: 8310	Preparatory Method	i: <u>3510</u>	A	AB #: <u>G97CI</u>	2024
b Name: DCHM	Contrac	t#: <u>F4162</u>	4-94-D-80		
eld Sample ID: N0393GW001	Lab Sample l	D: 97C057	92	Matrix	:: <u>WG</u>
	al Calibration ID:				
Solids: Initi					
ate Received: 17-Dec-1997 00:00	Date Extracted: 22-	Dec-1997 (00:00 Date	Analyzed: 31	-Dec-1997 04:4
oncentration Units (ug/L or mg/KG dry w				District	0115
Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.452	0.50	(2.4)		_
Acenaphthylene	0.433	1.0	(0.89)		
Anthracene	0.0259	0.050	0.0259		U
Benzo(a)anthracene	0.0265	0.050	0.0265		U
Benzo(a)pyrene	0.0325	0.050	0.0325		U
Benzo(b)fluoranthene	0.0467	0.10	0.0467		U
Benzo(ghi)perylene	0.0713	0.100	0.0713		U
Benzo(k)fluoranthene	0.0258	0.050	0.0258		U
Chrysene	0.0462	0.050	0.0462		U
Dibenzo(a,h)anthracene	0.0351	0.100	0.0351		U
Fluoranthene	0.0924	0.100	0.0924		ប
Fluorene	0.0590	0.10	0.0590		U
Indeno(1,2,3-cd)pyrene	0.0351	80.050	0.0351		U
Naphthalene	0.252	0.50	(59)		
DI	0.0297	0.050	0.0297		U
Phenanthrene	0.0435	0.050	0.0435	1	ប

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R(2)5/98



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Report No.: 98AFO0011

Field dup

Analytical Method: 8310	Preparatory Method: 3510	_ AAB #:	G97CP024
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: N0393GW101	Lab Sample ID: 97C05793		Matrix: WG
% Solids:	Initial Calibration ID:		
Date Received: 17-Dec-1997 00:00	Date Extracted: 22-Dec-1997 00:00	Date Analy	zed: 31-Dec-1997 05:35
Concentration Units (ug/L or mg/KG of	dry weight): ug/L		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.452	0.50	2.6	ノ 1	
Acenaphthylene	0.433	1.0	0.433	1	U
Anthracene	0.0259	0.050	0.0259	1	U
Benzo(a)anthracene	0.0265	0.050	0.0265	1	U
Benzo(a)pyrene	0.0325	0.050	0.0325	1	U
Benzo(b)fluoranthene	0.0467	0.10	0.0467	1	υ
Benzo(ghi)perylene	0.0713	0.100	0.0713	1	U
Benzo(k)fluoranthene	0.0258	0.050	0.0258	1	U
Chrysene	0.0462	0.050	0.0462	1	U
Dibenzo(a,h)anthracene	0.0351	0.100	0.0351	1	U
Fluoranthene	0.0924	0.100	0.0924	1	บ
Fluorene	0.0590	0.10	0.0590	1	U
Indeno(1,2,3-cd)pyrene	0.0351	80.050	0.0351	1	บ
Naphthalene	0.252	0.50	(50)	1	
Phenanthrene	0.0297	0.050	0.0297	1	Ŭ
Pyrene	0.0435	0.050	0.0435	1	U

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Comments:	Sungate receivery DCBP-90%
	good prension for field dups, cites
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	R(2)5/98



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Report No.: 98AFO0015

Analytical Method: TCLP-8240	Preparatory Method: 1311	_ AAB #:	G980G00J
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: NSS06CC001	Lab Sample ID: 97C05845	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Matrix: SN
% Solids:	Initial Calibration ID:		
Date Received: 19-Dec-1997 00:00	Date Extracted: 25-Dec-1997 00:00	Date Analy	zed: 27-Dec-1997 13:59
Concentration Units (ug/L or mg/KG	dry weight): mg/L		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1-Dichloroethylene	.005	.7	.005	1	U
1,2-Dichloroethane	.005	.5	.005	1	U
2-Butanone	.010	200	.010	1	U
Benzene	.005	.5	.005	1	U
Carbon Tetrachloride	.005	.5	.005	1	U
Chlorobenzene	.005	100	.005	1	U
Chloroform	.005	6	.005	1	U
Tetrachloroethylene	.005	.7	.005	1	U
Trichloroethylene	.005	.5	.005	1	U
Vinyl Chloride	.010	.2	.010	1	U

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	101.	76.0-114.	
4-BromoFluorobenzene	98.3	86.0-115.	
Toluene-D8	100.	88.0-110.	

Comments:		1	
	R(2)5/98	



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Report No.: 98AFO0016

Analytical Method: 8260A	Preparatory Method:	AAB #:	G980D00X
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: N5092TB001	Lab Sample ID: <u>97C05846</u>		Matrix: NQ
% Solids:	Initial Calibration ID:		
Date Received: 20-Dec-1997 00:00	Date Extracted:	Date Analy	zed: 27-Dec-1997 17:40
Concentration Units (ug/L or mg/KG	dry weight): ug/L		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.176	5	0.176	1	U
1,1,1-Trichloroethane	0.261	5	0.261	1	U
1,1,2,2-Tetrachloroethane	0.184	5	0.184	1	U
1,1,2-Trichloroethane	0.211	5	0.211	1	U
1,1-Dichloroethane	0.105	5	0.105	1	U
1,1-Dichloroethene	0.245	5	0.245	1	U
1,1-Dichloropropene	0.221	5	0.221	1	U
1,2,3-Trichlorobenzene	0.173	5	0.173	1	U
1,2,3-Trichloropropane	0.158	5	0.158	1	U
1,2,4-Trichlorobenzene	0.211	5	0.211	1	U
1,2,4-Trimethylbenzene	0.130	5	0.130	1	U
1,2-Dibromo-3-Chloropropane	1.16	5	1.16	1	U
1,2-Dibromoethane	0.0770	5	0.0770	1	U
1,2-Dichlorobenzene	0.170	5	0.170	1	U
1,2-Dichloroethane	0.0674	5	0.0674	1	U
1,2-Dichloropropane	0.168	5	0.168	1	U
1,3,5-Trimethylbenzene	0.178	5	0.178	1	U
1,3-Dichlorobenzene	0.163	5	0.163	1	U
1,3-Dichloropropane	0.128	5	0.128	1	U
1,4-Dichlorobenzene	0.178	5	0.178		U
2,2-Dichloropropane	0.182	5	0.182	1	U
2-Butanone	2.56	5	2.56	1	U
2-Chlorotoluene	0.150	5	0.150	1	U
2-Hexanone	1.20	5	1.20	1	U
4-Chlorotoluene	0.110	5	0.110	1	U
4-Methyl-2-Pentanone	1.09	5	1.09		U
Acetone	2.88	5	2.88		U
Benzene	0.124	5	0.124		U
Bromobenzene	0.150	5	0.150		U
Bromochloromethane	0.150	5	0.150	1	TT
Bromodichloromethane	0.112	5	0.112	1	

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Report No.: 98AFO0016

Analytical Method: 8260A	Preparatory Method:	_ AAB #:	G980D00X
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: N5092TB001	Lab Sample ID: 97C05846		Matrix: NQ
% Solids:	Initial Calibration ID:		
Date Received: 20-Dec-1997 00:00	Date Extracted:	Date Analy	zed: 27-Dec-1997 17:40
Concentration Units (ug/L or mg/KG	dry weight): ug/L		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Bromoform	0.101	5	0.101	1	U
Bromomethane	0.229	5	0.229	1	U
Carbon Tetrachloride	0.201	5	0.201	1	U
Chlorobenzene	0.118	5	0.118	1	U
Chloroethane	0.489	5	0.489	1	U
Chloroform	0.140	5	0.140	1	U
Chloromethane	0.314	5	0.314	1	U
Dibromochloromethane	0.121	. 5	0.121	1	U
Dibromomethane	0.142	5	0.142	1	U
Dichlorodifluoromethane	0.933	5	0.933	1	U
Ethylbenzene	0.136	5	0.136	1	U
Hexachlorobutadiene	0.341	5	0.341	1	U
Isopropylbenzene	0.160	5	0.160	1	U
Methylene Chloride	0.141	5	0.91	1	J
Naphthalene	0.174	5	0.174	1	U
Styrene	0.130	5	0.130	1	U
Tetrachloroethene	0.180	5	0.180	1	U
Toluene	0.148	5	0.148	1	U
Trichloroethene	0.103	5	0.103	1	U
Trichlorofluoromethane	0.215	5	0.215	1	U
Vinyl Chloride	0.334	5	0.334	1	U
cis-1,2-Dichloroethene	0.141	5	0.141	1	U
m&p-Xylene	0.247	10	0.247	1	U
n-Butylbenzene	0.191	5	0.191	1	U
n-Propylbenzene	0.205	5	0.205	1	U
o-Xylene	0.107	5	0.107	1	U
p-Isopropyltoluene	0.170	5	0.170	1	U
sec-Butylbenzene	0.141	5	0.141	1	U
tert-Butylbenzene	0.130	5	0.130	1	U
trans-1,2-Dichloroethene	0.174	5	0.174	1	U

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Analytical Method: 8260A	Preparatory Method:	_ AAB #:	G980D00X
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: N5092TB001	Lab Sample ID: 97C05846		Matrix: NQ
% Solids:	Initial Calibration ID:		
Date Received: 20-Dec-1997 00:00	Date Extracted:	Date Analyz	zed: 27-Dec-1997 17:40
Concentration Units (ug/L or mg/KG	dry weight): ug/L		

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	90.4	76.0-114.	
Bromofluorobenzene	97.2	86.0-115.	
Toluene-D8	94.4	88.0-110.	

Comments:	$\mathcal{R}($	2)5/98	



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Report No.: 98AFO0016

Analytical Method: 8260A	Preparatory Method:	AAB #: <u>G980D00X</u>
Lab Name: DCHM	Contract #: F41624-94-D-80	
Field Sample ID: N5092FT001	Lab Sample ID: 97C05847	Matrix: WG
% Solids:	Initial Calibration ID:	
Date Received: 20-Dec-1997 00:00	Date Extracted:	Date Analyzed: 27-Dec-1997 18:12
Concentration Units (ug/L or mg/KG	dry weight): ug/L	

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.176	5	0.176	1	
1,1,1-Trichloroethane	0.261	5	0.261	1	บ
1,1,2,2-Tetrachloroethane	0.184	5	0.184	1	U
1,1,2-Trichloroethane	0.211	5	0.211	1	U
1,1-Dichloroethane	0.105	5	0.105	1	U
1,1-Dichloroethene	0.245	5	0.245	1	U
1,1-Dichloropropene	0.221	5	0.221	1	U
1,2,3-Trichlorobenzene	0.173	5	0.173	1	U
1,2,3-Trichloropropane	0.158	5	0.158	1	บ
1,2,4-Trichlorobenzene	0.211	5	0.211	1	U
1,2,4-Trimethylbenzene	0.130	5	0.130	1	U
1,2-Dibromo-3-Chloropropane	1.16	5	1.16	1	U
1,2-Dibromoethane	0.0770	5	0.0770	1	U
1,2-Dichlorobenzene	0.170	5	0.170	1	U
1,2-Dichloroethane	0.0674	5	0.0674	1	U
1,2-Dichloropropane	0.168	5	0.168	1	U
1,3,5-Trimethylbenzene	0.178	5	0.178	1	U
1,3-Dichlorobenzene	0.163	5	0.163	1	U
1,3-Dichloropropane	0.128	5	0.128	1	U
1,4-Dichlorobenzene	0.178	5	0.178	1	ប
2,2-Dichloropropane	0.182	5	0.182	1	U
2-Butanone	2.56	5	2.56	1	บ
2-Chlorotoluene	0.150	5	0.150	1	U
2-Hexanone	1.20	5	1.20	1	U
4-Chlorotoluene	0.110	5	0.110	1	U
4-Methyl-2-Pentanone	1.09	5	1.09	1	U
Acetone	2.88	5	2.88	1	U
Benzene	0.124	5	0.124	1	U
Bromobenzene	0.150	5	0.150	1	U
Bromochloromethane	0.150	5	0.150	1	U
Bromodichloromethane	0.112	5	0.112	1	1 0

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Report No.: 98AFO0016

Analytical Method: 8260A	Preparatory Method:	AAB #:	G980D00X
Lab Name: DCHM	Contract #: <u>F41624-94-D-80</u>		
Field Sample ID: N5092FT001	Lab Sample ID: 97C05847		Matrix: WG
% Solids:	Initial Calibration ID:		
Date Received: 20-Dec-1997 00:00	Date Extracted:	Date Analys	zed: 27-Dec-1997 18:12
Concentration Units (ug/L or mg/KG	dry weight): 11g/I		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Bromoform	0.101	5	0.101	1	U
Bromomethane	0.229	5	0.229	1	U
Carbon Tetrachloride	0.201	5	0.201	1	U
Chlorobenzene	0.118	5	0.118	1	U
Chloroethane	0.489	5	0.489	1	U
Chloroform	0.140	5	0.140	1	U
Chloromethane	0.314	5	0.314	1	U
Dibromochloromethane	0.121	5	0.121	1	U
Dibromomethane	0.142	5	0.142	1	U
Dichlorodifluoromethane	0.933	5	0.933	1	U
Ethylbenzene	0.136	5	0.136	1	U
Hexachlorobutadiene	0.341	5	0.341	1	U
Isopropylbenzene	0.160	5	0.160	1	U
Methylene Chloride	0.141	5	0.141	1	U
Naphthalene	0.174	5	0.174	1	U
Styrene	0.130	5	0.130	1	U
Tetrachloroethene	0.180	5	0.180	1	ប
Toluene	0.148	5	0.148	1	บ
Trichloroethene	0.103	5	0.103	1	บ
Trichlorofluoromethane	0.215	5	0.215	1	U
Vinyl Chloride	0.334	5	0.334	1	U
cis-1,2-Dichloroethene	0.141	5	0.141	1	U
m&p-Xylene	0.247	10	0.247	1	U
n-Butylbenzene	0.191	5	0.191	1	U
n-Propylbenzene	0.205	5	0.205	1	U
o-Xylene	0.107	5	0.107	1	U
p-Isopropyltoluene	0.170	5	0.170	1	U
sec-Butylbenzene	0.141	5	0.141	1	U
tert-Butylbenzene	0.130	5	0.130		U
trans-1,2-Dichloroethene	0.174	5	0.174	1	

R(2)5/98 AFCEE FORM 0-2



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Analytical Method: 8260A	Preparatory Method:		AAB #: <u>G98</u>	0D00X
Lab Name: DCHM	Contract #:	F41624-94-D-80		
Field Sample ID: N5092FT001	Lab Sample ID:	97C05847	Matı	ix: WG
% Solids:	Initial Calibration ID:			
Date Received: 20-Dec-1997 00:00	Date Extracted:		Date Analyzed: 2	7-Dec-1997 18:12
Concentration Units (ug/L or mg/KG de	ry weight): ug/L	_		
Surrogate	Recovery	Control Limits	Qualifier	
1,2-Dichloroethane-D	4 91.1	76.0-114.		
Bromofluorobenzene	98.7	86.0-115.		
Toluene-D8	94.2	88.0-110.		j
Comments:	R(2/5/98		



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Analytical Method: 6010	Preparatory Method: 3015	AAB #: 9	G97CY005
Lab Name: DCHM	Contract #: F41624-94-D-80		
Field Sample ID: N5092FT001	Lab Sample ID: 97C05847		Matrix: WG
% Solids:	Initial Calibration ID:		
Date Received: 20-Dec-1997 00:00	Date Extracted: 30-Dec-1997 00:00	Date Analyze	ed: <u>06-Jan-1998 14:53</u>
Concentration Units (ug/L or mg/KG	dry weight): ug/L		

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Arsenic	65.2	300	65.2	1	U
Barium	3.44	20	36.	1	
Cadmium	2.55	5.0	2.55	1	U
Chromium	6.98	10	6.98	1	U
Lead	31.7	100	31.7	1	U
Selenium	39.3	300	39.3	1	U
Silver	4.50	10	4.50	1	U

Comments:

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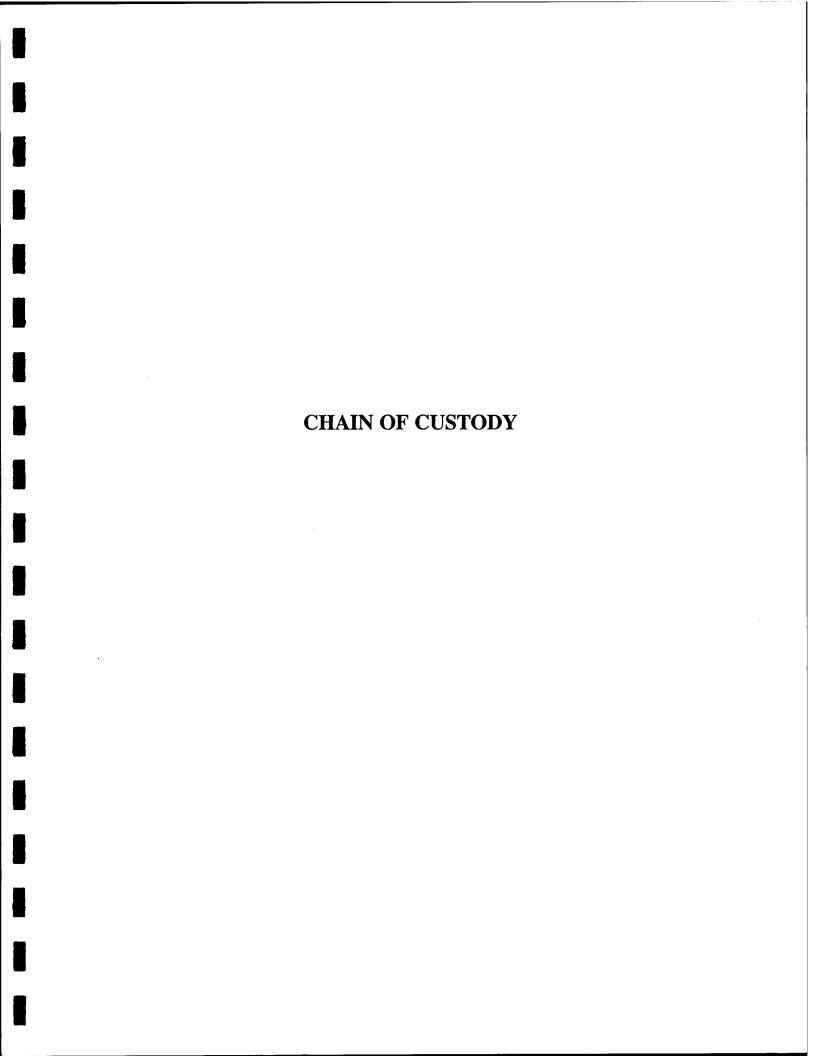
Analytical Method: 7470	Preparatory Method	od: 7470		AAB #: <u>G97C</u>	Y006	
Lab Name: DCHM	Contra	ct #: F4162	4-94-D-80			
Field Sample ID: N5092FT001	Lab Sample	ID: <u>97C058</u>	347	Matri	x: WG	
% Solids:	Initial Calibration ID: _					
Date Received: 20-Dec-1997 00:00	Date Extracted: 30	0-Dec-1997	00:00 Dat	e Analyzed: 30)-Dec-1997 00:00	
Concentration Units (ug/L or mg/KG d	lry weight): ug/L					
Analyte	MDL	RL	Concentration	Dilution	Qualifier	VU
Mercury	0.0614	0.1	0.0614	1	U	Û
Comments:		R(2/5	196		



ANALYTICAL REPORT

Form ARF-AL
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						Date					
						Labor	ratory G	roup Na	me <u>97C-</u>	0507-07	
						Accou	int No.	03206			
Attentio 4083 Riv	ingineering, n: Roy Cohe er Road d, OH 45014	en						l Telepho	FAX	3) 844-6	280
Sampling	Collection	and Sh	inmont								
prmbille	Sampling			AFB		Date	of Coll	ection	<u>Decembe</u>	r 15, 19	97
	Date Samp	oles Rec	eived a	at Labor	atory_	Decemb	ber 17.	1997			
Analysis							•				
•	Method of	Analys	sis <u>XX-</u> E	P-800							
	Date(s) o										
Inalytica	l Results									w	
Field Sample Number	Laboratory Number	Sample Type	ds (Total)	VQ							
			Solids	ĺ							
393VE009	97C05787	so	96.6	_		 		_			+-
393VE109	97C05788	so	95.4	~							++
393VE109	97C05788MD	so	95.4	~							+1
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'v Paramet	ment on last er not detect		e LOD.	** Se	e comme	nt on	last page en LOD a	e.			
n raiamet	er not reque	sted.		. , 1	——————————————————————————————————————	1-	100				
0	2/8	38		Ana	Lysty		. C				
K	,00	/		Dan	<u> </u>	m	•	,			
-				ACV.	-cwc[;		J			1	$\frac{1}{282}$



2540-2tb

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

1156 **PRESERVATIVE** Cress Contract Contra 'n à 20 Z 47 Le Voy 'n 801225860807 792 7700 i B 775054 SUMMA 7 NO. & SIZE OF CONTAINERS Sau)13 84 123 Data chem 200 West Lake FEDEX Scott 4 300 Contract No.: F 416-24 - 94 - D - 8066 SAMPLE DEPTH Æ 4 7÷ Utah نے نے ₩ ij نے نے نے نے Salt 096 Ş AF Installation Identification: かつはてら SAMPLE Sample Sent To: A V くく S O ≺ Freight Co.: Air Bill No.: Address: Phone: 0000 SAMPLE Matrix Lab: **₹** < S 65 b < Delivery Order No.: 8:15 FIELD LOT CONTROL NO Send results to: Attn: Nachcen S. chaik, 101 201 0 00 AmTech Engineering, Inc. 46-1241 Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440 Date/Time 4343 Saguaro Trail LOCATION CLASS CODE S Project Name: Pilot Test/Trealability study 2. Ø > Ŋ 7 Received for Laborytory By: (Signature) AFB. Oscode SAMPLE TYPE FD1 181 ž **781** Received By: (Signature) Received By: (Signature) NSS 06 SU001 NSSO6SUAB1 NSS06 SUID2 NSS06.5UTB1 LOCATION/ SAMPLE ID RECEIVED Location: Wurtsinith 1145 Sampler Name/Signature: , TO-14 Method 16/61/11 **PARAMETER** *UO/ Date/Time Date/Time Date/Time かん MILITARY TIME 1815 Mondongin 1815 1817 1817 VOCS Engineering, Inc. AmTech Relinquished By: (Signature) Relinquished By: (Signature) Relinquished By. (Signature) 18- NON-81 æ 8 8 96 96 - 96 - 98 96 96 - 96 - 96 * DATE Remarks:

AMTECH ENGINEERING, INC.

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

Distribution:

For Questions about samples, contact A.S.KANDA (2A Spirit sampler's name) at

517 739 4180

(field phone)

4940-76

9791 Hb

Care/50G: NOUZ6

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

F41624-94-D. 8066 AF Installation Identification: WURTら Contract No.: Project Name: Pilot Test/Treatability Stucty Location: Wurtsmith AFB, Oscock, MI Swew JAFACK Sample Name/Signature

0003

		-		1011	1 1 1 1	1 (12)	1 -1 -1			7 7 7 7			
-	Amiech	·	Location: Wurtsmith AFB.	smith AFB		Oscoche, MI		Contract No.:	F41624.94.D. 8066	.94.D.	3066		0 (
	Engineering, Inc.	•	Sampler Name/Signature:	SNED THERE	(V, V)	M	, —,	Delivery Order No.:	1.000				0
	DATE	MILITARY	PARAMETER	LOCATION/ SAMPLE ID	žΩ	SAMPLE	LOCATION . CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
81,50	22- NOV-987	1240	SF _k *	NO61DCWOO1	w001	7	WL	COOA	WG	PP	25,5 ft.	240m1Vid	(20) to 4°C
<u>e</u>	g6 -	1300		NO61E GW001	,w001						32.5 ft.	32.5 A. 240 MJ, G, Andr	
2	- 98	1315		NOG LF GWOOL	wooi						39,5 ft.	2, 40ml C. Mate	-3
7	. 98	13415		NOG 2 DGWOOL	WOO1						25.5 ft.		
72	96 -	1420		NO62EGWOO1	W001						32.5 ft.		
13	- 96	1455		NO62FGWOOI	WOOI						39,5 ft.		
74	g6 -	1605		NO63DGW001	W 001	>					25.5 ft.		!
75	9 6-	5091		NO63DGW10	W101	FD1					25,5 ft.		
16	- 96	5491		NOGBEGWOO	W001	7					32.5 A.		
2/2 2/2	96 -	1725		NO64D GW001 NO64E GW001	W 001						255 A.		
18	19 6 -	5181		NOG 5D GWOO	w001						25,5 ft.		
Z	8 6 - ∧	0481		NO65EGWOO1	WOOT	->	÷>	>	>	->	32,5 A.	->	. >
	Relingdished By (Signature)	ture)	Date/Time	Date/Time (1 O C) Received By: (Signature)	Received By: (\$	l		1	Samp	Sample Sent To:	Scott	5au115	
7	7.7	1	1/57/1	7,	red 1	- 1	801225840781	1810	Lab:	•	Data	Shen	
	Relinquished By: (Signature)	ture)	Date/Time	<u>ac</u>	Received By: (Signature)	Signature)			Address:	SS:	0960	Wast Lovoy	10y Dr.
										ļ	Salt	Lake City	
	Relinquished By: (Signature)	ture)	Date/Time		Received for La	for Laboratory by (Signature)	=	e E		•	Wah	84123	2547
	1000x		11/20/97 11:06	11:06	b'		-11	11-11-87 11:00	Phone:	· **	(108	266-7700	20
	Remarks: * 5;	Sulfur lland	NAMAFLUOTION BY	Ьу	Send	results to:	Send results to: Attn: Nachegra	, 5, A. d. ki	Freight Co.:	It Co.:	FEDEX	EΧ	
	č	ASTM D55	D5504 W Direct	ect		- •	Am lech Engineering, Inc. 4343 Saguaro Trail	ering, Inc. ail	Air Bill No.:	. No.:	8012	301225860781	
		2017:01				_	Indianapolie IN 46269	16060					

(print sampler's name) at

For Questions about samples, contact ろんての しのからとい

Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

Distribution:

Injection

(field phone) 517 739 4180

Case (SDG: NOV 27

200 941626

CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

Contract No.: F41624-94-17-8066 AF Installation Identification: WURIS Delivery Order No.: 0.007 Project Name: Pilot Test / Treatability Study The Table ME Location: Wurtsmith AFB, Oscada Sampler Name/Signature: Sye i> プタでんじく y AmTech Engineering, Inc.

1158 000

I					2. 101	11				1 1 1 1 1 1 1)
	DATE	MILITARY	PARAMETER	LOCATION/ SAMPLE ID	NG OI	SAMPLE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE	NO. & SIZE OF CONTAINERS	PRESERVATIVE
976 254802	77C 0545024-NOV-987	1207	SF. *	NOG1DGW002	W002	N	WL	000 A	Z Z	d d	25,5 ft.	2, 40ml G Buder	ex Cool to to
78	g6 -	1247	•	NO61EGWOO2	W002								i
28	- 9,6	1315		NOGIF GWOOD	200 M						39.5 ft.		
83	9 6 -	1354 1484		NO62 D GW002	, W002						25,5 ft.		
6.00 6.00	. 9Ġ.	1423		NO62EGW002 NO62FGW003	7W007						32.5 20.5 ft.		
\$	96 -	025,44		NOG 3 D G WOOZ	1,000Z						25,5th.		
290	8 6 -	1613		NO63EGWOOZ	WOO2						32.5 ft.		
28	- 98	1647		NOG 4 D GWOO'2	W002						25,5th.		
88	96 -	1730		NOG4 EGWOOZ	rwooz	- - -					32,5 ft.		
89	- 98	1730		NOGLEGWIOZ		FD1					32.5tt.		
90	96 -	1818		NOGSD GWODZ	WO02	IN					25.5 ft.		
9	₩ - 96	1902	->	NOGSE GHOOZ	WOOZ	7	->	*	->	>	32.5 ft.	>	>
<u>œ</u>	Relinquished By Signeture	0/10	Date/Time	Date/Time // (EV R	Received By: (Si	Signature)			Sample	Sample Sent To:	5cott	SAWIIS	
!	7.77	, / + /	1/6 1/1	1					Lab:		Da 1 A	Cham	
œ.	Rejinquished By: (Signature)	re) /	Date/Time	æ	Received By: (Signature)	ignature)			Address:	;; ;	960	West Levoy	YOU DY.
							ſ			i	5A17	Lake City	7
ž	Relinquished By: (Signature)	()	Date/Time	<u>«</u>	teceived for Lat	Received for Laboratory By: (Signature)	Date/	Time 17-26-97	ļ	I	Viah	84123.2	2547
					1	2		11:00	Phone:	ı	(108)	266-770	0
œ	Remarks: メグい	* Sulfur Hexa fluoride	Flyoride	6 54	Send	results to: Al	Attn: Na deg m	Suddie;	Freight Co.:	ا 00:	FEDEX	X	
	AST	ASTM DSSOY WDirect	W/Di186	 ,		∢ ☆ 드	Am lech Engineering, Inc. 4343 Saguaro Trail Indianapolis. IN 46268	ering, Inc. ail 46268	Air Bill No.:	.:. Vo::	82/22	586078	
ă	Distribution: White: (Or Yellow: (Co	White: (Original) Accompanies Shipment Yellow: (Cooy) Returns With Report	ipment t			<u> 0. u</u>	Phone: (317) 291-7285 Fax: (317) 293-1440	1-7285	For Questions ab	out samples, cor	For Questions about samples, contact Skan L	ı	((print sampler's name) at
	Pink: Sar	impler's Copy	•			-	1-00= /o\	ì	(field phone)	0814 666 613	08146		

(field phone) 517 739 4180

975-20-(8-0) CHAIN-OF-CUSTODY RECC

CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

 $\Sigma_{r'}$

Oscoda

Location: Wurtsmith AFB

Sampler Name/Signature;

3000 5 AF Installation Identification: いいんこう 776 Contract No.: F 4 16 24_

Delivery Order No.: OCC7

PRESERVATIVE

Norn

AmTech Engineering, Inc.

NO. & SIZE OF CONTAINERS CAMISTE るりをなる SAMPLE DEPTH 4 نے نے نے نے ij نے نيه نے نے Ş SAMPLE > SAMPLE MATRIX S Ü FIELD LOT CONTROL NO ≺ 000 LOCATION CLASS CODE > ίì SAMPLE TYPE Ž NSS 06 50002 97225019 LOCATION/ SAMPLE ID **PARAMETER** ¥ VOCS 2030 MILITARY TIME 24. NOV-987 96 96 -- 96 96 8 96-8 8 98 DATE

to.14 Method þ VOC 3 *

Remarks:

Send results to: Attn: Nacherna Sich R. A. AmTech Engineering, Inc. Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440 4343 Saguaro Trail

ONO 586 80122 F DE X Freight Co.: Air Bill No.:

DY

Scott Saulle

Sample Sent To:

Received By: (Signature)

11/25/97, 1100

Date/Time

Relinquished By: (Signature)

Date/Time

Relinquished By; (Signature).

- 98

8

Received By: (Signature)

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Data Chem 960 WRS+

Address:

Lab:

47 イナナン Levey

7

UT 84123 Salt Lake

800 266-7700

Phone:

"Pul97 1000

Depath

By: (Signature)

Received for Laboratory

Date/Time

Relinquished By: (Signature)

(field phone) (517) 739-4180

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy Distribution:

CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

AmTech Engineering, Inc.

Location: Wurtsmirth DF13, Oscorda (1)3

Project Name: Pilot Test / Treatability Study

Contract No.: F41624_94-0-8066

AF Installation Identification: ソンスト

						Delivery Order (vo.	. (2002) ·				0
DATE	MILITARY	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
99- VCN - 2.5 - Spy20	1150	SF	NI935GWOOL	N 1	WL	Y 000	7	40	3 55 A.	2, 40ml	(00) to to
96 -		•							نے		
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Relinquished By: (Signature)	The same	Date/Time	II/25/57 1/5/ Received By:	r. (Signature)			Sample	Sample Sent To:	50.01	Scott Saulli	
Relinquished By: (Signature)	ature)	Date/Time	Received By	Received By: (Signature)			Address:	ı	Da 1a	Data chem 960 West Lovas	2
				•				i	Salt	50 th lake Gt	i
Relinquished By: (Signature)	ature)	Date/Time	Received for	r Laborator A. (Signature)	Date	//-26-97	Phone:		177 8	WT 84123-244	47
Remarks:			Seni	d results to: ,	Send results to: Attn: Najekuem	55 dad. k.	Freight Co.:	 	FEDEX	× e	
,				. •	AmTech Engineering, Inc. 4343 Saguaro Trail	ring, Inc.	Air Bill No.:	 	8012	801225860781	
ı					Indianapolie IN 46260						

Rails (Print sampler's name) at For Questions about samples, contact Skan the

4180

- BEL - 138 -517 (field phone)

Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440

Distribution:

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

9240-26

C941639 40C

CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

AmTech Engineering, Inc.

Project Name: Prof Test / Treatability study Location: WLX-3 Smith AFB, BSCOOLE, MI

AF Installation Identification: WURTS

Contract No.: F 4.1624-94-12-8066

10 to 1 1,161

Enginee	Engineering, Inc.	w	Sampler Name/Signature:	ignature:	eisel	Alseden	den	Delivery Order No.:	. 0007				0 0 0
DATE		MILITARY	PARAMETER	LOCATION/ SAMPLE ID	NΩ	SAMPLE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE	NO. & SIZE OF CONTAINERS	PRESERVATIVE
28. NOV-987	<u> </u>	1250	SFL	97COS495 NOCIDGWOO3	15 Swood	2	2 %	Y000	WG	dd.	25,5 ft.	2,40m! Amby	to Cal to be
7	<u> </u>	1320 K		97005496 NOG1EGW	6 W CO3	٤2		_				6100	
9	- 98 - 135 - 125	33		976-054967414 NO61EGW103	PEO M	FD1					37.5 ft.		
n	-94 /3.	355		97005498 NJ615 GWOO3	800M	2.2					35 5 ft.		
	-98 1415	15		97605499 NO62D GWOO3	99 1 W 003						25 Cf.		
	-98 1515	15		9705500 NO62EGW003	DD WE'D 3						82, \$ ft.		
0	-84 /Se	1540		97C0551	o/ woo3						39.5 ft.		
D.	. sig 160	1605		97C05502 NO63DGW003	WOD3						25,5 A.		
	JF1 80-	1705		91005503 NOC3E GW003	03 -WD03						32 S ft.		
ત	t1 86.	1740		97CO5504 NO647 GV	504 GW003						25,5 ft.		
\$	81 86-	1805		97605505 NOCKE GWCC3	05 GWC 03						32,5 ft.		
>	81 86-	1820	->	80650 GW003	WOO3	د	>	->	>	>	2.5,5A.	>	>
Relinquished By: (Signature	By: (Signature)		Date/Time	000/	Received By: (Signature)	Signature)			Sampl	Sample Sent To:	Scott	Scott saulls	
pesa	2	3	11/28	76/8					Lab:	•	Data	Data Chem	
Relinquished By: (Signature)	By: (Signature)		Date/Time		Received By: (Signature)	Signature)			Address:	 .:	1096	960 West Le Voy	No ho
Relinquished By: (Signature)	By: (Signature)		Date/Time		Received for Laboral Received for Laboral	Received for Laboratory By: (Signature)		Date/Time	Phone:	. 1	(x0)	UT 84,23,2547	47
Remarks:					Send	results to: /	Send results to: Attn: NA OCKIN TO	m John Ri	Freight Co.:	it Co.:	FEDEX	, x	
							4343 Saguaro Trail	o Trail	Air Bill No.:	 	3012	30122586076	09

Range (print sampler's name) at

For Questions about samples, contact 3 Aun. 8A

Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

Distribution:

4180

(field phone) (517) 739.

2971639 4ºC

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

•	•	Project Name:	N	Arra it	50 / 1	77	AF Installation Identification:	ntification:				15.62
Amiech	Ş	Location:					Contract No.:					0 (
Engineering	ı, Inc.	Sampler Name/Signature:	1	locial	Abreden		Delivery Order No.:					7000
DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	NON/ E ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE	NO. & SIZE OF CONTAINERS	PRESERVATIVE
28- NOV-94	1820	5F, 976	47005507D NO6516W103	rew10.3	F.D.1	7	60cA	17/5	PP	25,5 ft.	2 40 mi 6 h	7 4.0
7 28. NOV-98	9 1900	SE	97005508 NOG5EGWOO3	508 GW003	2	X	♦330	72.73	PP	32, 5 ft.	2, 40m/6/	1 4
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96 -										æ		
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Relinquished By: (Signatur	nature)		350/07	Received By: (By: (Signature)			Sample	Sample Sent To:			
B238	3	7/11	46/8					Lab:	ŀ)	c
Relinquished By: (Signature)	ature)	Date/Time		Received By: (\$	By: (Signature)			Address:	į.		401	
Relinquished By: (Signature)	iature)	Date/Time		Received for Laboratory By Renewal Presented Rene		(Signature) Date/Time	323-9 7/1000	Phone:		9	ζø	
Remarks:				Send	Send results to: A	Attn:		Freight Co.:	ا 3:	1. C. 7.		
						AmTech Engineering, Inc. 4343 Saguaro Trail Indianapolis, IN 46268	ering, Inc. ail 46268	Air Bill No.:	No.:	1		
Distribution: White:	White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report	Shipment port			a. u.	Phone: (317) 291-7285 Fax: (317) 293-1440	I-7285 ¹ 140	For Questions at	For Questions about samples, contact	ntact	Jd)	(print sampler's name) at

Distribution: White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

(field phone)

916-047

Engineering, Inc. AmTech

Project Name: Pilot Tost / Treatability Study

AF Installation Identification: WURT

HE

Oscoda

Location: Wurlsmith AFB

8066 94. D. Contract No.: F 41624-

DECOS & 1163 **SP**6 ~

HC1 900 5542 PRESERVATIVE Dy. LaVoy 2547 2,40ml, G,A NO. & SIZE OF CONTAINERS 266.7700 Sau 115 84123. Sall Lake Data chem 960 West SAMPLE DEPTH نے نے Scot t نے نيه ij نے نے (801) نے نے نے ₩ ij バ SAMPLE Sample Sent To: Q. РP ρp Address: Phone: 000 SAMPLE MATRIX Lab: グベ ري ک N Q Sampler Name/Signature: A. SHANOA RAJAH (Alban) many L. Delivery Order No.: FIELD LOT CONTROL NO A 100 A100 12/5/47 1120 Date/Time LOCATION CLASS CODE S アア \mathbf{z} Received for Laboratory By: (Signature) SAMPLE TYPE TB FD1 Received By: (Signature) Ž ž Z Z Σ 2 ž VSB SDGW101 NSBIEGWOOI NSB 4D GWOO! NH 895 GW001 NH905GW001 NH955 GWC0 N88 4D T800 NSB SDGWOO NBBZEGWOO LOCATION/ SAMPLE ID 1149 12/4/611 **PARAMETER** Date/Time Date/Time Date/Time BTEX 626 1712 715 2101 1100 MILITARY TIME 2030 Mandonapin 155 1615 1410 Relinquished By: (Signature) Relinquished By: (Signature) Relinquished By: (Signature) 03. DEC-981 $\stackrel{\boldsymbol{\xi}}{\not\sim}$ - 98 8 86 96 - 98 96-**8**6 -. 96 - 98 8 8 DATE

表 4 4 & &

4

#

49 50

Remarks

7 day T.A.T.

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy Distribution:

Send results to: Attn: Nacheem Siddiki Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440 4343 Saguaro Trail

For Questions about samples, contact SKRNOA Palas, (AS (print sampler's name) at

801225860759

FEDEX

Freight Co. Air Bill No.: (Red phone) (517) 739-4180

970-0478

AF Installation Identification: WURTS

6000 ...

Project Name: P; lot Test / Treatas, lity Study Z OSCORA Location: Wurtsmith AFB

> **AmTech** Engineering, Inc.

15.5

Sampler Name/Signature:

Contract No.: F 41624 - 94 - D-8066

Delivery Order No.: OOOF

PRESERVATIVE NOTH i A 7547 787 301) 266,7700 CANISTER NO. & SIZE OF CONTAINERS SAU 119 SUNMA 84123 Data chem 1840 960 WRSJ FEDER Scott 5a1t SAMPLE DEPTH 歼 Æ. ¥; ¥ ₽ ₽ نے ij ij ₩. نے يے * SAMPLE METHOD Sample Sent To: 2 と > U Freight Co.: Address: Phone: SAMPLE MATRIX 4 **4** S S S P FIELD LOT CONTROL NO Siddiki 1400 10 201 100 0 Send results to: Attn: Nadrem SIA.
AmTech Engineering, Inc. 45/2/2 Date/Time LOCATION CLASS CODE γ γ S ğ > < Received for Laboratory By: (Signature) Ž SAMPLE TYPE ABI FD1 iΒ Received By: (Signature) Received By: (Signaffare B NSS 8B50001 NSS 8 B SU 101 NSSSBSUAB NSSBBSUTB1 LOCATION/ SAMPLE ID 13:00 64/4/21 PARAMETER Date/Time Date/Time Date/Time VOCS MILITARY 1120 1120 0 120 7 5 Relinquished By: (Signature) Relinquished By: (Signature) Relinquished By: (Signature) - 90 1 04-DEC-981 .987 - 96 8 96-8 8 8 96 96-- 8 DATE 1580 Remarks: 28年 State of the state gress a

By To-14 Method

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

Distribution:

Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440 4343 Saguaro Trail

(print sampler's name) at Rajah For Questions about samples, contact Skyn Me.

801225860737

Air Bill No.:

739 4180 217 (lield phone)

1165

0100

AF Installation Identification: Wいれて

10f2

Sampler Name/Signature: Feisa | Abedrey

Project Name: Pilot Test/Treatability Study

-7

AmTech Engineering, Inc.

3008 Contract No : F41624-94-D. Delivery Order No.: 0007 Σ Location: Wurtsmith AFB OSCODA

DATE	MILITARY	PARAMETER	LOCATION/ SAMPLE ID	≥ □	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE	NO. & SIZE OF CONTAINERS	PRESERVATIVE
07-DEC-98	1040	SF	97605599 N8B1CGWO01	599 5 WOO!	1 Z	WL	4000	NG	pp	18.5 ft.	2.40ml, G.A	1 Cap to 4'C
- 96	11 05	<u>`</u>	600 N8B 1DGWOD	600 W001	Z					24.5ft.		
<u> 5</u> 6 -	11 05		60/ NSB1DGW101	60/ 101WF	FD1					24. 5ft.		
<u> 9</u> 6-	11.30		NSBLEGWOO!	602 FW00-1	N					31.5 ft.		
<u>9</u> 6-	12.50		60% N8B2CGW001	WOO!						18.5 ft.		
£6-	1545 m 1320		604 N882DGW001	of operations						24.5 ft.		
. 96 96	13.20		LOS N8B2EGWOOM	60S GW000						31.5 ft.		
£6 -	1400		NSB3CGWOOM	OOM5						18.5 ft.		
<u>8</u> 6-	1420		NSB 3DGWOOT	NOON:						24.5 ft.		
2 6 −	1440		NSB4CGWOOL	108 W001	->					18.5 ft.		
96 -	1440		NSB4CGW101	10 9 m	FDI	:				18.5 ft.		
)	1500	→	N8B 4D 6W301	100Mz	TN	→	>	>	>	24.5 ft.	>	>
Relinquished By: (Signature)	(a)	Date/Time		Received By: ((Signature)			Samp	Sample Sent To:	Scot	Scott saulls	
level #	pecter	6/4/21	0091 26/4/21	1,0	100 ×			Lab:	•	Data	Data Chem	
Relinquished By: (Signature)	ure)	Date/Time	E .	Received By: (: (Signature)			Address:	 .:	960	960 West La Vay Dr.	er Dr.
Relinquished By: (Signature)	ure)	Date/Time		Received for L.	Laboratory By: (Signature)	ی	Date/Ting 1200	Phone:	i i	UT 2	UT 84 123. 2547	547
Remarks:				Send	results to:	Attn: Node	Send results to: Attn: Neder m Sick. b.	Freigh	Freight Co.:	FROEX	×W	,
						AmTech Engineering, Inc.	neering, Inc.	Air Bi	Air Bill No.:	8012	80122 486 0612	12

Distribution:

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

For Questions about samples, contact Skandle. (field phone) (517) 739-4180 Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440

Raigh (print sampler's name) at

80122 584 0612

4343 Saguaro Trail

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							1			•	
1	•	Project Name:	SAME AN	105 2		AF Installation Identification:	ntification:			0	1166
AmTech	-,	Location:			-	Contract No.:					
Engineering, Inc.	•	Sampler Name/Sig	Sampler Name/Signature: FetSol A	bedeen		Delivery Order No.:					1, 20 7, 1
DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE	NO. & SIZE OF CONTAINERS	PRESERVATIVE
07-DEC-98 1520	1520	SF	7705 611 N3B5CGW001	z	27	¥000	77	44	18,5 ft.	000 A WG PP 185 A. 2 40ml 61/201 to 6'	(m) to 12,
£6- 1	1540	→	97COS6/2 N8B5DGW001	Z	7/4	AOOO	WG	PP	24.5 ft.	->	->
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96 -				ii.	
96 -				42	
Relinquished By: (Signature)	Date/Time 1600 12/2/97	Received By: (Signature)	Sample Sent To:		
Reinquished By, (Signature)	Date/Time	Received By: (Signature)	Address:	280	JI
Relinquished By: (Signature)	Date/Time	Received for Labyragory Br. (Agenature) Date/Time	Phone:	4.3	1 1
Remarks:		Send results to Attn: Am Tech Engineering, Inc. 4343 Saguaro Trail Indianapolis, IN 46268	Freight Co.: Air Bill No.:	J. P. J. J. J. J. J. J. J. J. J. J. J. J. J.	1 1 1
Distribution: White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Conv	nent	Phone: (317) 291-7285 Fax: (317) 293-1440	For Questions about samples, contact	laci (print sampler's name) at	rname) at

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

(field phone)

6840-226

CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

AF Installation Identification: WUR い Project Name: Pilot Test /Treadability Study

1168 0015

> Engineering, Inc. AmTech

Location: Wurtsmith AFB, Oscoda

Sampler Name/Signature:

3066 Contract No.: F41624 - 94 - D-

0001 Delivery Order No.:

(00) to 40 **PRESERVATIVE** 2547 Le 10 x (801) 266.7700 40m) G.A NO. & SIZE OF CONTAINERS Sau113 84123. Salt Lake Datachem 960 West FEDEX 4 Scott 126.5 ft. 18.5 ft. 24.5 ft. 3).5 ft. 18,5 ft. 18.5 ft. 24.5th. 24.5A. SAMPLE DEPTH 85 A. 3).5 ft. 24.5 F. 3).5 ft. 7 18.5 SAMPLE Sample Sent To: PΡ Freight Co.: Air Bill No.: Address: Phone: Lab: SAMPLE *ئ* ≿ FIELD LOT CONTROL NO Siddiki 4000 Attn: Nadego LOCATION CLASS CODE ≾ Received for Laboratory By/(Signature) Syed Toffers X.91 Send results to SAMPLE TYPE FD1 ž ĭ Received By: (Signature) Received By: (Signature) 9705651 N8B3DGW002 N8B32574W02 N8B32574W02 9703556 N8BIC GW002 9705657 N8BID GW002 NSBIESW002 N8B 3CGW002 9705654 NSB 2E GW002 PROSESS NSB2EGW102 N8BSCGW002 N8BSDGWOOZ N8B4CGW002 9705649 NSB 4 DGWOOZ 970548 945024 1425026 97005650 LOCATION/ SAMPLE ID 2300 +6/11K1 PARAMETER Date/Time Date/Time Date/Time SF 1930 2000 1847 0161 15051 1845 MILITARY TIME ンてて! 1530 1555 (625 1745 1415 Relinquished By: (Signature) Relinquished By: (Signature) .98 9 989 .96 199 B 987 18 8 <u>8</u>6 9 - 98 DATE 11- DEC Remarks

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy Distribution:

AmTech Engineering, Inc. Phone: (317) 291-7285 Fax: (317) 293-1440 Indianapolis, IN 46268 4343 Saguaro Trail

Raise (print sampler's name) at For Questions about samples, contact Skanda

801225860645

(field phone) 517 739 4180

PC-0508

097-1760

CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

Project Name: Pilot Test / Treastability Study AF Installation Identification: WURTS

0013

169

Ostocha SK B Location: Wurtsmits Sampler Name/Signature:

Engineering, Inc. AmTech

Contract No.: F 4-16-2 4-94- D-

Z

8066

1000 Delivery Order No.:

8 2732 63 97505/193 8 795 ō **PRESERVATIVE** ~ ガン. (801) 266.7700 960 West Lavoy NO. & SIZE OF CONTAINERS Brent Stayans 40m), G. UT 84123sall Lake Datachem **ドアンド**メ U, 124.5 ft. 31.5 A. SAMPLE DEPTH 18,5 ft. 18.5 ft. 24.5 A. 18.5 ft. 24.54. 18.5 A. 31,5 ft. 24.5A. نے 24.5R. 18.8 SAMPLE METHOD Sample Sent To: PP Freight Co.: Address: Phone: SAMPLE Lab: \$ \$ -> FIELD LOT CONTROL NO 331 7ACI/21 AOOO Attn: Nakkim Siddiki AmTech Engineering, Inc. > LOCATION CLASS CODE 7 (Signature) Send results to SAMPLE TYPE ドロイ 2 Received By: (Signature) Received By: (Signature) 2 Sectived for Lat NEBSCGWC03 NBB 5D GWOO'S N8B 3< GW 103 N8B1DGWOO3 N8B 4c G WOO3 N8B4DGWOO3 NSB3DGWOOS N8B2CGWOD3 NOBLDGWOOS N8B2EGWOO3 H8BIC GWOO3 N8BIEGWOO3 N8B3CGWOOD LOCATION/ SAMPLE ID rac) 46/9///1 **PARAMETER** Date/Time Date/Time Date/Time SF 1555 1525 7557 1505 1200 350 24 71 1305 MILITARY TIME い<u>81</u>エ 1230 5191 1640 Relinquished By: (Signature) Relinquished By: (Signature) 199 99? 69, . 8 14-DEC-98 98 697 - 987 189 9 - 98 68, Relinquished Byr. (Sig DATE Remarks

Distribution:

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

For Questions about samples, contact Skanda Rajah (print sampler's name) at 517 739 4180 (field phone)

Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440

4343 Saguaro Trail

801225860656

Air Bill No.:

Coss/spe Deris
1167
0066
0066 970-0494

Project Name: Pilot Test/ Treatability Study

AmTech Engineering, Inc.

AF Installation Identification: WURTS

Contract No.: F41624-94-D-8066 4000 Delivery Order No.: MI A Blandaronn Location: Wurtsmith AFB, Oscoda Sampler Name/Signature:

DATE	MILITARY	PARAMETER	LOCATION/ SAMPLE ID	ON/ EID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
10-DEC-97	1630	VOCs	NSS8BSU002	50005	7	.sv	000A	65	> <	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	SUMMA	HONE
96 1										#	CANISTER	970 AS/20
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96 -										نے		
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96 -										نے		
96 -										±		
Relinquished By: (Signature)	ure)	Date/Time 12/11/97	1200	Received Byr.(5	(Signature)	By (Signature)	12-6-9		Sample Sent To:	Scot	Scott Saulls	
Relinquished By: (Signature)	ure)	Date/Time		Received By: (Signature)	Signature)		,		;; ;;	960 1	960 West Levoy	13.
Relinquished By: (Signature)	ure)	Date/Time		Received for La	Received for Laboratory By: (Signature)	nature) Date/Time	rime	O. G. G. G. G. G. G. G. G. G. G. G. G. G.		Salt UT 8	Salt Lake City UT 84123.2547	7-7
Remarks:				Send	d results to: A	Attn: Nadeem Sieldiki	Sieldski	Freight Co.:		FEDEX	FEDEX	
. By	By To-14 Method	ne thod			~ ~ r== 1	Am lecn Engineering, Inc. 4343 Saguaro Trail Indianapolis, IN 46268	ering, inc. ail 46268	Air Bill No.:	No.:	3012	701225860134	7
Distribution: White: (O Yellow: (Co	White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy	Shipment port			_ *-	Phone: (317) 291-7285 Fax: (317) 293-1440	-7285 40	For Questions a	bout samples, cor	ntad Skan	For Questions about samples, contact SKRNAL RAINL (print sampler's name) at	nt sampler's name) at

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy Distribution:

For Questions about samples, contact Skanda Rajoch (print sampler's name) at (field phone) 517 739 4180

1170 0911-160 Casa SOG Mader 150 DECIST T

AF Installation Identification: WURTS

Project Name: Pilot Test/Treaterbility STudy

Location: Wurtsmith AFB Oscool, MI

AmTech Engineering, Inc.

10f5

Contract No.: F 4-1624 - 34 - 10 - 8066

Delivery Order No.: 0007 Sampler Name/Signature:

	-1	Sample Palife/Signature.	griature.	11/	-	Delivery Order No	7000 .				••	
DATE + PSA	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE	
15-DEC-98	. 0011	BTEX &	N0393 AB 002	ABI	NA	1007	WB	٧	NA ff	2, 4-0ml	181 3006	181
96-	1100	M.TBE \	N0393 TB 002	TB1	N.	V100	ВM	4 Z	NA Æ.	2,40 ml	HCI	\approx
<u> 96</u>	1425	Brex& (NO393VEROS	2	PH	V 1 []	50	GB	12.0 ft.	2, 4,0 mm 1279	in ()	8
<u> 9</u> 6-	1425	MTBE {	N0393 VE 109	F.D.1					15.0 ft.	2, 4,0 oz to	HCI	*
- 96	1427	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	NO393VEOOG	2					15.0 ft.	2, 407	NONE	B
196-	1427	\$ 511111	N0393VE 109	FD1					15,0 ft.	2,402		<u>چ</u>
<u> 1</u> 96 -	1430	, , , ,	NU393VEDO9	2					15,0 ft.	1, 402		8
- 96	1430	<i>*</i>	NO393 YEOOG	F91			→	>	15.0 A.	1, 402	^	<i>∞</i>
96 -	i 300	BTEX &	NO373 GW 001	N1			1VG	ЬP	24.5 ft.	2, 40ml	1961	50 50 50 50 50 50 50 50 50 50 50 50 50 5
- 96	1300	MTBE	N0343 GW101	F.9.1	\	→>	WG	PP	24.5 ft.	2, 40 m)	1761	9
- 96	0011	PAH3	NO393 EB102	E131	NØ	010	WØ	N.A.	N. A. A.)) (NOME	5
<u> </u> ∮6 -	1100	ЬÞ	N0393 EBC02	EBI	NA	C10 A	ς Σ	47	<u>ند</u> ۲	1, 11	からた月	2%
Relipquished By: Signature	. 2 %	Date/Time		Received By: (Signature)			Sampl	Sample Sent To:	Brent	Brent Stevens		4.
1-10-12-X		1/9//1/	11/6/97 12.00				Lab:	. 1	Dalachen	ر می		<u> </u>
Relinquished By: (Signature)	æ	Date/Time	Received B	Received By: (Signature)			Address:	' '	960 W	960 West Levoy Dr	Dr.	
-									,	•		

the soil samples 50 Q14 Remarks

~ 1500 ppm White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sempler's Copy

Distribution:

Siddik. Send results to: Vattn: Na decum 510. 4343 Saguaro Trail

Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440

(print sampler's name) at For Questions about samples, contact SKRNA RAIAh

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2547

54123-

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30 こし

FEDEX

Freight Co.: Air Bill No.:

Phone:

231 CP/U/1

By (Signature)

Date/Time

Relinquished By: (Signature)

salt Lake

(lield phone) 517 734 4190

916-0507

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

AF Installation Identification:

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Same

Project Name:

Contract No.:

AmTech Engineering, Inc.

Location:

DATE	MILITARY	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE	SAMPLE	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE	ž M
15. DEC -38	1300	PAHS	NO3936WC01	N 1	L H	٧ · · ·	1 NG	dd	24.5 ft.	47C05792	HCOS NON E	事-
196-		Pb	ND393GW101	F.D. I					e ë	97605793		W.B.
<u> 96</u> -		PAH3	NO3-33 GW 101						نے	97COSTA	Gesture?	10
£6- ∧	→	PJ	NO343 GWC01	N1	->	~	\	-	<u>ن</u> و خ	9750579	, , , , , , , , , , , , , , , , , , ,	10
96 -									نه			100
96 -									نعة			•
96 -									d			
96 -									æ			
96 -									i.			
96-									랟			
96 -									نعه			
96-									نے			
Relipquished By (Signalure	101	Date/Time 12/16/19	Date/Time Received B	Received By. (Signature)			Samp Lab:	Sample Sent To: Lab:				
Relinquished By: (Signature)	ro)	Date/Time	Received B	Received By: (Signature)			Address:	.;		X 6	ci s	
Relinquished By: (Signature)	жө)	Date/Time	Received for I	or Laboratory By: (Signature)	gnature) Date/T	2151 LAKI	Phone:	ä		,		
Remarks:			Sei	Send results to: Attn:	Attn:		Freigh	Freight Co.:	17.8.40			
					AmTech Engineering, Inc. 4343 Saguaro Trail	gineering, Inc. ro Trail	Air Bill No.:	No.:				

Distribution: White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

(print sampler's name) at

For Questions about samples, contact

Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440

(field phone)

506: DEC 19

1150-216

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

2100

Project Name: Pilot Trest/Treatability study

Location: Wurtsmith AFB, 0,500

Engineering, Inc. AmTech

AF Installation Identification: かしなて 3

94.D-8066

Delivery Order No.: 0007 Contract No.: F41624

4°C **PRESERVATIVE** Ġ 960 KWRST LeVOY Dr Stephens 2547 2.66-7700 Salt Lake City NO. & SIZE OF CONTAINERS 7031 Datachen 84123 Ś FEDEX Brent SAMPLE DEPTH 4 نے نے نے نيه ij نے نے نے ₩ Ŧ. يه 801 ₹ SAMPLE METHOD Sample Sent To: S U Freight Co.: Air Bill No.: Address: Phone: SAMPLE MATRIX Lab: Z 3 FIELD LOT CONTROL NO 000A Rainh Date/Time /2 - /9 - 5-3 AmTech Engineering, Inc. 155 Send results to: Attn: Skanda LOCATION CLASS CODE ナンメ 11 🎉: (Signature) SAMPLE TYPE Fex BY Σ 12/19 (9:19) Received By: (Signature) Received By: (Signature) Sampler Name/Signature: Ting Posp (2) NSS06 cc001 97c05845 LOCATION/ SAMPLE ID TCLP VOC **PARAMETER** Date/Time Date/Time 1745 Relinquished By: (Signature Relinquished By: (Signature) Relinquished By: (Sigpétt 17-DEC-99 96 96 - 96 - 98 8 8 96-8 - 8 - 96 - 96 DATE Remarks:

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy Distribution:

For Questions about samples, contact SKAINCIA, RAILE (print sampler's name) at (field phone) 317 291-7285

20122 5860667

Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440

4343 Saguaro Trail

SDG: DEC 20

97C-0518

CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

1175 8100

Project Name: Pilot Test/Treatability Stady AF Installation Identification: WURTS

3908 94- 12-Contract No.: F4 1 624

A, SKANDARAJAH (AKHAMAN, Delivery Order No.: 000 7.2 AFB, Oscoda Location: Wartsmith Sampler Name/Signature:

AmTech Engineering, Inc.

PRESERVATIVE HNO3 ついて エクロ 4 & Yox Stephens 8012667700 NO. & SIZE OF CONTAINERS 4021 7.40ml 2,500ml Lake Datachen 2417 960 West ₽ Ħ Salt ¥ SAMPLE DEPTH نے نے ij. ᆵ نيع نے نے ₩. نے Brent ر م Ž SX. Z SAMPLE METHOD Sample Sent To: NB ঔ U Address: Phone: SAMPLE かえ かえ Z * FIELD LOT CONTROL NO < 00 001 000 Date/Time /22 / 12/10/12 LOCATION CLASS CODE N Signature) SAMPLE TYPE 181 Z 1220 Received By: (Signature) Received By: (Signature) Z N5092 F. 10012 97005848/ N5092 F.T.001 NS092TB001 LOCATION/ SAMPLE ID 12/19/97 RCPA **PARAMETER** 948507Lb 4705847 Date/Time Date/Time Date/Time **V**0C MILITARY 1129 N 1125 A Bhousmann 112 Relinquished By: (Signature) Relinquished By: (Signature) Relinquished By: (Signature 19-DEC-98 i,Be LBB 96 - 96 ႘ - 96 8 96-- 96 - 96 8 DATE

14 day T.A.T.

White: (Original) Accompanies Shipment Yellow: (Copy) Returns With Report Pink: Sampler's Copy

Distribution:

Send resides to: Attn: Skinda Raigh Am Tech Engineering, Inc. Indianapolis, IN 46268 Phone: (317) 291-7285 Fax: (317) 293-1440 4343 Saguaro Trail

For Questions about samples, contact Skanda Pound (print sampler's name) at

801225860715

FEDEX

Freight Co.: Air Bill No.:

7285 (Field phone) 3/7 2.91

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DATA VERIFICATION AND VALIDATION	
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Sample Let

of X-0587-07 Proposition TCY NOA 976-0518-02/Metal PAH **₹**0**×** \$ **V04 ₹**07 SF **4**87 PAT 976-0578-03 HB 976-0464-61 92-6250-26 97C-6587-05 10-8450-26 10-8492-ILb 975-0457-01 (10-1850-JLb 976-0507-02 10-8050-266 976-0489-01 40-L250-)L6 12-1250-26 976-0507-03 10-9950-266 19-16-36 15-86436-01 10-4640-JLb

AmTech Engineering
Wurtsmith AFB; D.O. 0007
CHECKLIST FOR DATA PACKAGE VERIFICATION: Package ID:_see list_

tem in package	metals (RCRA	VOA; 8240, (8250)	VOA- TO-14	PAHS	lead	MTBE	3F.	BTEX
umber of samples	1	5	7	5	5	٧	1.8	15
ase narrative	×	×	×	n/a	×	χ	×	X
xample celculations	n/a	×	×	n/a	n/a	×	×	×
esult forms	×	×	×	n/a	x	Х	×	×
nstrument data (metals)	х			28 TA 17 TA 18 TA	×		14	×
FAA raw data (metals)	x				x			n/a
sample preparation log (metals)	×				×			×
	×			100 No. 1	×			×
	e/u		Sept.		n/a	新 10 条 号 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		n/a
Pent. Ident. Cmpds. list (TICs)		×	×	n/a	n/a	n(a	n/a	n/a
iata table- results 6 QC	×	х	×	n/a	×	×	n/a	×
Surrogate Forms (II)		×	×	r./a	Ž	×	n a	e/u
(atrix Spike/Dup (MS/MSD-III)	×	×	×	n/a	×	X	N (a	×
dethod Blank Summary (IV)	×	×	×	r./a	×	×	×	×
Funing/ Fun log (V)	×	×	×	n/a	×	٦ ٩	×	n/a
Internal Std. Areas (IS-VIII)		×	×	n/a		ر لا الا	r./a	n/a
Raw data- by sample: (Organic)		**************************************						7. 8. 4. 4.
* result form		×	×	n/a		×	×	×
* Chromatogram		×	×	n/a		n/a	×	n/a
* Quantitation report	2 4 70	×	×	n/a		na	×	n/a
* target Mass Spectra (VCA)		×	×	n/a		N/A	r/a	n/a
* TIC Mass Spectra (VOA)		ω N	×	n/a		3 (8	n/a	n/a
Calibration data:	And And And And And And And And And And	Z 2				\$ 40 \$ 3		
* initial calibration data	×	×	×	n/a	×	¥	×	×
* continuing calibration data	×	×	×	n/a	X	X	×	×
Analysis log, erganics		×	*	n/a		×	×	n/a
Surrogate/spike prep. log		×	×	n/a		₩ 	a/a	n/a
LCS recoveries and limits	×	×	×	n/a	×	×	×	×
		8						

Verified By:

Foy Colen, Amfrech Engineering

DATA RESULT FORMS COVER SHEET

Project:	Wurtsmith AFB Batch see attached list
As the result labelled "VQ")	of data validation, the following AFCEE qualifiers may be assigned to the data (under column):
U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.
J	The analyte was positively identified; the quantitation is an estimation.
F	The analyte was positively identified but the associated numerical value is below the reporting limit (RL), but above the method detection limit (MDL).
R	The data are unusable due to deficiencies in the ability to analyze the sample and/or meet QC criteria.
В	The analyte was found in the associated blanks, as well as the sample.
M	A matrix effect was present; M+ indicates a result is biased high; an M- indicates a result is biased low.
S	This code applies to all screening data.
T	Tentatively identified compounds identified by GC/MS.
In addition to usability.	these codes, the validator may apply the following codes to further indicate data quality or
 -	(dash) No qualification of a positive result.
UJ	The analyte was analyzed for, but was not detected. The associated numerical value is at or below the MDL, and is considered estimated due to non-compliant quality control data.
Z	This result, or detection limit in this analysis is not the best one to use; another analysis (e.g., the dilution or re-analysis) contains a more confident and usable result; refer to the report for more details.
Date sent out:	Fels 6. 1998
Review	ver(s): Roy J. Cohen Toy J. Cohen
	print name signature
Receive	print name signature date

(AmTech Engineering)

SAMPLE SETS

97C-0457-01	VOA
97C-2648-01	VOA
97C-0464-01	SF_6
97C-0465-01	SF_6
97C-0466-01	SF_6
97C-0471-01	VOA
97C-0478-01	VOA
97C-0481-01	SF_6
97C-0489-01	SF_6
97C-0508-01	SF_6
97C-0494-01	VOA
97C-0507-01	VOA
97C-0507 - 02	PAH
97C-0507-03	Pb
97C-0507-04	VOA
97C-0507-05	PAH
97C-0507-06	Pb
97C-0517-02	TCLP VOA
97C-0518-01	VOA
97C-0518-02	Metals
97C-0518-03	Hg
97C-0507-07	% Solids

DATA VALIDATION REPORT WURTSMITH AFB; D.O. 0007 LABORATORY: DATACHEM, SALT LAKE CITY

This report covers the validation of 22 sample batches that were received at DCL from Nov. 21, 1997 through Dec. 20, 1997. The laboratory submitted all 22 batches in one large data package. The validator reviewed each sample batch individually. This report discusses each batch in that manner.

1. Batch 97C-0457-01, T0-14 Volatiles (4 air samples)

Based on the data submitted, there were no quality control issues identified. Therefore, no data were qualified.

2. Batch 97C-2648-01, T0-14 Volatiles (1 air sample)

Based on the data submitted, there were no quality control issues identified. Therefore, no data were qualified.

3. Batch 97C-0464-01, 13 water samples for Sulfur Hexafluoride (SF₆)

Upon analysis of the data, several problems were noted:

- 1) First, the laboratory miscalculated the concentration of the SF₆ standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.
- 2) During the analysis, the lab analyst was unable to fill the analysis vials full enough to prevent headspace from occurring, causing loss of analyte. Upon repeated analysis, the samples yielded lower and lower results for SF₆, suggesting that the analyte loss from the sampling container continued rather rapidly. Again, a low bias is indicated by this observation.
- 3) A few samples required dilution because the value of SF₆ exceeded the calibration range of the instrument. Upon dilution, however, the results were only a small fraction of the initial results, again suggesting considerable loss of analyte from the sample container.
- 4) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was quite high, another was low.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased considerably low (i.e., the actual sample concentrations are most likely much higher than reported).

4. Batch 97C-0465-01, 14 water samples for Sulfur Hexafluoride (SF₆)

Upon analysis of the data, several problems were noted:

- 1) First, the laboratory miscalculated the concentration of the SF_6 standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.
- 2) During the analysis, the lab analyst was unable to fill the analysis vials full enough to prevent headspace from occurring, causing loss of analyte. Upon repeated analysis, the

samples yielded lower and lower results for SF₆, suggesting that the analyte loss from the sampling container continued rather rapidly. Again, a low bias is indicated by this observation.

- 3) A few samples required dilution because the value of SF₆ exceeded the calibration range of the instrument. Upon dilution, however, the results were only a small fraction of the initial results, again suggesting considerable loss of analyte from the sample container.
- 4) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was quite high, another was low.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased considerably low (i.e., the actual sample concentrations are most likely much higher than reported).

5. Batch 97C-0466-01, 14 water samples for Sulfur Hexafluoride (SF₆)

Upon analysis of the data, several problems were noted:

- 1) First, the laboratory miscalculated the concentration of the SF₆ standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.
- 2) During the analysis, the lab analyst was unable to fill the analysis vials full enough to prevent headspace from occurring, causing loss of analyte. Upon repeated analysis, the samples yielded lower and lower results for SF₆, suggesting that the analyte loss from the sampling container continued rather rapidly. Again, a low bias is indicated by this observation.
- 3) A few samples required dilution because the value of SF_6 exceeded the calibration range of the instrument. Upon dilution, however, the results were only a small fraction of the initial results, again suggesting considerable loss of analyte from the sample container.
- 4) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was quite high, another was low.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased considerably low (i.e., the actual sample concentrations are most likely much higher than reported).

6. Volatiles (BTEXs)- batch 97C-047-01; 11 samples

- 1. The results for toluene in samples N8B1EGW001 and N8B5DGW001 were qualified (B) due to trip blank contamination.
- 2. All analytes have been qualified as estimated (J) in sample NH89SGW001 because the surrogate recovery was low for bromofluorobenzene (BFB). Results may be biased slightly low.
- 3. The BFB surrogate recovery was low in sample NH90SGW001. The positive results for benzene, ethylbenzene, and m/p xylenes have been qualified as estimated (J); the non-detected result for toluene has been qualified as unusable (R). The result for o-xylenes, already qualified (F), may also be considered estimated because of the low BFB surrogate.

7. TO-14 Volatiles- batch 97C-0478-01 (4 air samples)

There were no quality control findings, and no data were qualified on that basis.

8. Batch 97C-0481-01, 14 water samples for Sulfur Hexafluoride (SF₆)

Upon analysis of the data, the following problems were noted:

- 1) First, the laboratory miscalculated the concentration of the SF₆ standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.
- 2) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was slightly high, and another was slightly low, suggesting an estimated quantitation for all associated samples.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased low - the actual sample concentrations (and the reporting limit) may be approximately 20 % higher than reported. Non-detected results have been qualified as UJ, estimated.

9. Batch 97C-0489-01, 13 water samples for Sulfur Hexafluoride (SF₆)

Upon analysis of the data, the following problems were noted:

- 1) First, the laboratory miscalculated the concentration of the SF_6 standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.
- 2) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was slightly high, and another was low, suggesting an estimated result for all samples.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased low - the actual sample concentrations (as well as the reporting limit) may be approximately 20 % higher than reported.

- 10. Batch 97C-0508-01, 13 water samples for Sulfur Hexafluoride (SF₆)
 Upon analysis of the data it was noted that the laboratory miscalculated the concentration of the SF₆ standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated for all results and reporting limits. Therefore, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased low, the actual concentration (M), and
- should be considered biased low the actual sample concentrations (as well as the reporting limit) may be approximately 20 % higher than reported.
- 11. Batch 97C-0494-01, 1 air samples for TO-14 VOAs
 There were no quality control findings, and no data were qualified.
- 12. <u>Batch 97C-0507-01</u>; 4 aqueous samples for BTEX and MTBE There were no quality control findings, and no data were qualified.

13. Batch 97C-0507-02; 3 aqueous samples for PAHs:

There were no quality control findings, and no data were qualified.

14. Batch 97C-0507-03; 3 aqueous samples for lead:

There were no quality control findings, and no data were qualified.

- 15. Batch 97C-0507-04; 2 solid samples for BTEX and MTBE:
 - 1) The results for total xylenes have been qualified as estimated, biased high (M+) due to high MS/MSD recoveries for total xylenes in sample N0393VE109. The actual results may be lower than reported by as much as 50%.
 - 2) The results for ethylbenzene and toluene in both samples (-109 and -009) have been qualified as estimated (J) due to field duplicate imprecision.
- 16. Batch 97C-0507-05: 2 solid samples for PAHs:

All positive results are considered estimated in both samples, and have been qualified (J) due to field duplicate imprecision (except for fluoranthene, and results already qualified "F" that are below the reporting limit but above the MDL). Non-detected results in sample N0393VE009 have been qualified as estimated, UJ, because these compounds (benzo(g,h,i)perylene and benzo(k)fluoranthene) were detected above the reporting limit in sample -109.

17. Batch 97C-0507-06; 2 solid samples for lead:

There were no quality control findings, and no data were qualified.

18. Batch 97C-0517-02; 1 sample for TCLP VOA:

There were no quality control findings, and no data were qualified.

19. Batch 97C-0518-01: 2 aqueous samples for VOA:

There were no quality control findings, and no data were qualified.

20. Batch 97C-0518-02; 1 aqueous sample for RCRA Metals (except Hg);

There were no quality control findings, and no data were qualified.

21. Batch 97C-0518-03; 1 aqueous sample for mercury (Hg);

There were no quality control findings, and no data were qualified.

22. Batch 97C-0507-07; 3 solid samples for percent solids:

There were no quality control findings, and no data were qualified.

Date Validation completed: February 6, 1998

Validator signature:

Roy'J. Cohen, AmTech Engineering

APPENDIX F FIELD DATA COLLECTION SHEETS

Groundwate	r Monitoring	g Well			Test Locatio	n		
Date	Time	Water Level (feet bTOC)	Temp. (F)	pН	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
	7			:			781	
1/14/97	MP	A-E	120					FA
, (C)	332	0 571/04	3 669.	7.03	0 42	-116-3	c.887	7 1-E
(2)	3 37	U SH/0.4	4 5.79	7.03		- 45.5		
-7 B	3.45	0 738/0 5	7 6 61	6 75		-49.2		
	3:53	0-355/c 6	2 5.39	674		47.6		
	ALL	Azá	^	4-Ē				
	141	- 000/. 10	() n (4 (3)		0.4.0		
	456	1011/079	9.06	6.80	0.66	-853	1.5.30	
E	. E.SL	1.011/0-77	4.01	682	059	-45.2	1.554	
			İ					
	MI ²	AE	4-B	/				
		1024/129	930	6.57	 _ _ _ 	-73.4	2.492	
E1	5-15	1579/125	9-48	6 55	0.65	-76:3	2.4-23	
			1					
			<u> </u>					
	MP	5-B						
	5:36	1178/092	8.71	6 63	0.86	-63-7	1-807	
(E)	5:40	1.151/0.90	8-63	6.63	0.78	-66.4	1-476	
	MP	5-E						
7	· —		0 (0					
$\frac{\overline{v}}{\overline{c}}$	5:50	0.644/0.65	8.08	6.81			1-286	
2	5-50	0-818/0-63	8-45	6-82	0-58	-10.4.6	1-256	
					_			
				•	•		<u> </u>	

Groundwater Monitoring Well	Test Location
-----------------------------	---------------

	:	TDS/SILL Water Level	ے:	: :	!		Spc m	
Date	Time		Temp. (F)		DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/14/9	-71	HP3-	F	7	-			
	112450	ή	9.85	1 1 11	1 0 14	1 -5.7 /	1/23:	
<u>(</u>	1: 1245 p	77	7.85		0.49	-53.1		FA
	1:12-10		1.30	1037	1 0 37	1 -60-6	1-234	
		MP 3-	D					
<u>()</u>	12:56 1-00 FM 1:10	1.0/081	10-85	649	0.55	-490	1598	
<u> </u>	1-008M	1/0/0 82	10 82	6.48	054	-50.8	1-612	
(3)	1:10	107/0.84	10-83	6.46	2 58	-79.8	1.645	
		MP 2-	ØE					
(1)	1:50 FM	0735/056	8.12	6 95	0.45	-1297	1.130	
(2)	1.53	073/056	8-21	695	056	-132.5	1.120	
(3)	1 55	0 725/0 SE	8:21	6 95	045	-134.8	1116	
	-							
	<u> </u>	MP2-						
	2:15	0.692/0.53	6 64	7.06	0 47	-125.6	1.063	
(2)	2:22		628	7.08		-125.8	1.066	
(3)	2:35	0 687/055	649	7 10	0.42	-1255	1.057	
 -								
(7)	2 - 3	MP3-	15					
		0 583 /0 44	7-07	7-17	031	-110-3 115-9	0.597	
(2)	3:0 5	0 590/0 45	7.08	719	030	115.9	0.905	
		6.4	1 -					
(1)	3:15	0596/0.45	1-E	-1 in				
0			6.79	7-18		-119.2	0.918	
	7.20	0 598/0-45	6 43	7.14	0.44	-120:4	0 919	
-			10 2		EID			
(7,	3:23	0.565/0.43	1P 3-6	7-05		111 2	0.5	
(2)		0.565/0.43	690	7.03	0.86	-111.3	0 870	
- 61		/0 /3	- ,,,,	17.02		115.5	0.871	
				\				
								
								
	· · · · · · · · · · · · · · · · · · ·							

18

Vapor Monitoring Well SSOLE-MP1 Test Location SSOLE-MP1 A

; ;		Vacuum :				*	i		
Date	Time	H20)	Temp. (F)		%CO2	%CH4		PID (ppm)	Operator
11 11 47		7		20.3	0.0	0.3	0.0	141	
	1818	-		20.3		0	0.0	178	
	1819	!		13.0	5.4	0.3	0.0	170	
	1820			13.0	5.4	0.3	0.0	164	
	1821			13.0	5.3	0.2	0.0	160	
•	1822			13.0	5.3	0.2	0.0	161	
	1823					;			
	1824		!						
							-		
11/12/97	1914			_ ~	<u> </u>	~~	\	~~	~~
- 1121	1913				<u>、</u> こ				
	1915						<u> </u>	!	
	PIT			203	0.0	0.3	0.0	; •	
	1948		;	20.3	0.0	0.2	0.0		
 	1949			20.3	0.0	0.2	0.0	<u> </u>	
	1950			20.3	0.0	0.2	0.0	; 	
	1957			20.3	0.0	0.2	0.0	2.45	
	1952	·							
11/13/97	,					: 			
17/2/37		29·1"HG	PURGING	-					
	9:26	7 1 113	7 - 7-4700	20.0	0.4	0.0		240	FA
REPEAT	9:42		PURGING	r]	!		
	9.47			202	0.4	0.0		37.4	JP
11/13/17	ibis5	2,57							
437	435	2.55 2.55							-
	504	2.55				!		<u> </u>	
	-5.00	1-13-				<u> </u>			
	552	2:53							
	955	254							
19/14/9	7100,00	248		·					

Vapor Monitoring Well SS-06 Test Location MP 1- BA

Date	Time	Vacuum (inches H20)	Temp. (F)	6 00		-			
		1120)	remp. (r)	% O2	%CO2	%CH4	% Heliun	PID (ppm	Operator
115,9	1 255/1	1 1.59			CTACT	4.00	1		
. ,	300			Ć Ci	15 MET	NURGING	•	- - 	1
11/17/97	1/22/1	7 B			0.0	2 05	-	1.0-30	1
7		150		15.0	0.13	1 21/	 	1 2 2	+
				7 3 0	00	31		53	† †
11/18/97	1117			20.1	0.00	0.00	i		<u> </u>
	1120			20.1	0,00			24.3	<u> </u>
	1123	1,21		20. 1	0,50	0.00		20.2	
1: 19/97	1424			20.2		0.00		19,2	!
	1427	1-52		20.2	0,50		·	7.7	
			i			1.0.00		7.7	
11/20/97	1342	1.40							
	1353			19.9	0.0	0.1	٠. ن	39.2	55
	1359			20.0	0.0	0.1	0-0	33.5	21
<u> </u>	1402			20-0	0.0	0-1	0.0	37.3	·
								37,3	
1/21/97	1059			20.4	0	0	0	5.5	SJ
	1103			20.3	0	0	0	5.5 5.4	
	1107	· ·		20-2	Ċ	6	Ũ	3.8	
	1110			20.3	Ü	0	0	3.9	
	1112	1.80							
	12/6			19.9	0	. 0	i)	45-1	
	1220			19.8	0	0	0	37.7	
1122/37	1222	-, -,-							
42917		1.62		100					55
	1224			20.9	0.2	0	0	24-7	
				50.8	0.2	٥	0	23.5	
	12-30			50.6	0,2	G	0	21.7	
1/23/97	1528	1-67							
	1531		1	20.5	0-2				
	1537			20.6	0.2	0	0	434	3J
	1540			20-6	0.2	0	0	439	
124/97		0.40		~ 6	0.2	0	2	434	
. ,. 1	1133	170		0 =		<u> </u>			
- -	1137			9-5	0.2	27.1			22
	7 - 7	<u>_</u>		19.3	0-1	22.3	1.8	418	

11;42 11;45 11:48 11:51 20,5% 0.1 19,4% 0,1 19,4% 0,1 19,4% 0.1 20,5% 1,8 437 36,69 1,9 435 36,9 1,8 435 38,7 1,8 435

FIGURE 6-9 DATA SHEET 2 - VAPOR MONITORING WELL RECORD WURTSMITH AFB PILOT TESTING

		•	
Vapor Monitoring Well	MPI-A	Test Location	5506

		Vacuum	<u> </u>		1 7	1			<u> </u>
		(inches							
Date	Time	H20)	Temp. (F)		%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24/37	1554	-0.16	<u> </u>	19.7	0,0	45.3	2.0	397	TP
	1552			19.6	0,5	51,0	2.0	401	
	1601			19.6	0.0	53,7	2.5	406	
	1604			19.5	0.0	55.3	20	407	
Stargin	1 3-12 pg	ed at	2136	on 11/-24	197				
	, ,								
11/24	2136			19.6	00.0	35.6	2-0	436	An
	2139			19.6	0.00	42,6	2.0	425	
	2139			19.6	0,00	43.6	2.0	418	
	2145			19, 6	୦, ୯ ୧	45.0	2.0	418	
				. '					
11/25/97	1619			20.6	Ö	U	1-1	683	SJ
<i> </i>	1622			20.7	0	0	1-1	681	
	1625			20.7	D.	0	(٠ كـــــ	669	
11/26/97	1055	·		19-1	D / O	36.5	0-91	630	FA
	// m			19.6	04	37.5	090	623	
11/28/93	1240			18.4	0.3	12.7	0.55	2164	FA
, ,	1250			18.4	0:3	12.7	0.52	2308	
1,/30/97	16 25			18.3	0.4	1.2	0.27	228-6	
	1630			18.3	0-4	1.8		272.0	
12/2/97	1049			18.3	0.5	0.6	0.18	171.9	5.5
	1056			18.2	0.5	0.7	0.20	201-81	
	1103			18.2	0.2	0.7	0.20	217.6	
12/4/97	1022			18.0	0.7	0.1	0.17	93.6	55
, ,	1025			17.9	0.7	0.1	0.15	98.0	
	1029				0-7	0-2		112.2	
	1032			17-7	0-7	0. (114.5	
						`			
12/9/97	1610			17.5	v.7	00	C · C C	31.1	ASR
	1615			17.5	v.7	0.0	0.00	33.3	
	1620			17.6	0.7	00	0.00	34.7	
	1625			17.6	0.7	0.0	0.00	35.0	
	<u> </u>			7,7.	<u>-</u>	<i>D</i> . U	0.00	ا ک ر ر	
	-								
<u>_</u>				<u></u>		<u> </u>			

Vapor Monitoring Well MP-1A Test Location SS-06 Vacuum (inches Temp. (F) % O2 %CO2 %CH4 % Helium PID (ppm) Operator Date Time H20) 12/13/97 1025 16.9 1.1 0 0 12.9 55 1.1 0 1037 0 11.2 18.(1042 16.9 1-1 0 0 13.7

Vapor Monitoring Well SSOLo - MP1 Test Location MP1 B

	D	ate	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
u	11/n		1804	0		20.6	0.0	0.0	0.0	0.0	
		7	1806		i	0.2	15.1	45.7	0.0	148	
		7	1807			0.2	15.1	49.2	0.0	144	
			1808			0.1	15.1	51.4	0.0	139	
			1809			0.1	15.0	53.0	0.0	142	
			1810			0.1	150	54.3	0.0		
	4	7	1811			0.2	14.9	55.0	0.0	143	
			1812		1						
}			<u> </u>								
ŀ		\supset	$\widetilde{}$			~					
ŀ	1111	2197	1933			19.6	0.8	3.3	0.0		
ľ	- 12	<u> </u>	1934		<u> </u>	19.7	0.8	1.0	0.0		
ľ			1135			198	0.7	0.9	0.0		
t			1936			19.8	0.7	0.8	0.0		
				6.2	:	19.8	0.7	0.7	0.0	454	
ŀ			_		:	15.1				270	
H	/ Y (:	192	9:58		!	73.1	3.9	0.7		20	
	11/13	14.7	16:16	5,8						!	
+			16:37	5.75							
T			502	5.72	<u>-</u>						
ſ		-	5:00	142							
			5.52	5.65							
\downarrow			9.56	569							
				1							
-	11/14	4/91	1000 AM	556							
	11/15	5/97	1-55 PM	3.45		STAT	T PURC	1106		!	
			305 310			250	00	2.0		40.3	
				3.4							
L		7/97	1148 AM			17.9	00	00		408	
L	4118	197	1131			20.1	00	00		17.2	
			1134			20.1	0,00	0.00		16.2	
L			1137	2.71		20.0	0.00	0.00	İ	15.1	

Vapor Monitoring Well 55-U6 Test Location MP 1-B

19-6 0 32-6 2-0 463 1202 19.6 0.0 33.8 1.9 465 11/24/27 1607 -0.38 19.6 0.0 47.2 2.1 436 3	
	Operator
1441 3.0 201 0.0 6.60 0.0 6.4 11/20/97 1549 2.93 20.3 0 0 0 0 12.6 1553 20.4 0 0 0 0 13.4 1556 20.4 0 0 0 0 13.4 1559 20.4 0 0 0 0 13.4 11/21/97 1315 3.12 1316 19.9 0 0 0 0 24.8 1324 20.1 0 0 0 0 24.8 1324 20.1 0 0 0 0 28.5 1330 20.3 0 0 0 0 35.0 11/22/97 1333 3.25 20.3 0 0 0 0 35.0 11/22/97 1333 3.25 20.3 0 0 0 0 35.0 11/22/97 1333 20.1 0.2 0 0 0 12.7 1340 20.0 0.2 0 0 0 12.7 14.2 1340 20.0 0.2 0 0 0 185.6 17.55 19.9 0.7 0 0 19.7 8 19.9 0.7 0 0 19.7 8 19.9 0.7 0 0 209.8 11/24/97 1153 -0.38 19.5 0.1 34.2 2.0 449 11.59 19.6 0 0 33.8 1.9 465 11/24/97 1607 -0.38 19.6 0.0 33.8 1.9 465 11/24/97 1607 -0.38 19.6 0.0 33.8 1.9 465 11/24/97 1607 -0.38 19.6 0.0 47.2 2.1 436 = 11/24/97 1607 -0.38 19.6 0.0	55
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
15 53	
15 53	
15 5 6	55
1559	
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11/24/17 1607 -0.38 19.6 0.0 47.2 2.1 436 3	
19-6 0 32-6 2-0 463 1202 19.6 0.0 33.8 1.9 465 11/24/97 1607 -0.38 19.6 0.0 47.7 2.1 436 3	
19-6 0 32-6 2-0 463 1202 19.6 0.0 33.8 1.9 465 11/24/97 1607 -0.38 19.6 0.0 47.7 2.1 436 3	
19-6 0 32-6 2-0 463 1202 19.6 0.0 33.8 1.9 465 11/24/97 1607 -0.38 19.6 0.0 47.7 2.1 436 3	JP
11/24/27 1607 -0.38 19.6 0.0 47.7 2.1 436]	
	T.P
1613 19.6 0.0 46.1 - 439	
1621 19.7 0.0 45.1 2.0 444	
Granging stopped at 2130	
11/24/12 21 47 197 0.00 40.0 2.0 425	Azr
2152 19.7 0.00 32.4 2.0 460	
2155 19.6 0.0 37.3 2.0 433	
2158 19.6 0-00 39.5 2.0 425	
11/25/97/1648 18-7 0-6 27.8 1-5 664	してと

1657

18-7 0-6 29.0 1.5 650

Vapor Monitoring Well SS-06 Test Location MP 1-B

	1	Vacuum (inches		!		!	:		
Date	Time	H20)	Temp. (F)	% O2	%CO2			PID (ppm)	
11/26/97		_		17.2	08	18.8	1.4	672	FA
	1113			17.2	0.8	18.0	1.3	6%	
	1116			17.2	0.3	17.8	1.3	645	
11/28/97	13 15			16.0	1.3	4.3	0.87	1808	FA
,		_		16.0	1.3	6.1	0.88	1951	
1//30/97	1640			15.0	2.0	0.8	0.48	219	
	1645		-	15-4	1.8	0.6	0.44	201	
12/2/97	1109			14-1	2.5	0.4	0.25	161.1	T.C
- 	1114			14.0	2.5	0.5	0.27	174.2	
	1117			14-0	2.5	٥٠٤	0-26	180.5	
15 /. /4						0.0			
12/4/97				11.7	3.6	0.9	0.18	256-	55
	1044			11-6	3.6	1-0	0.22	265	
	1048			11-6	3.5	1-3	0	287	,
	i053			11.7	3.4	1.6	0.18	284	
12/9/97	1627			8.8	5.0	0.9	0.0	180.8	
	1631			9.0	4.8	1.0	0.0	195.8	
	1635			9.2	4. 8	1.3	0.0	203.8	
	1640			9.3	4.7	1.6	0:0	216.2	
12/13/97	1229			5.9	6-4	0.8	0	246.2	57
17/17/1	1242			5-9	6-4	1-0	0	269	
	1249			6.0	6.3	1.4	0	302	
						,			

	•								
					•				

Vapor Monitoring Well SO6-MP1 Test Location SSO6-MP1C

Vacuum : (inches am Date Time H20) : Temp. (F) % O2 %CO2 % Helium PID (ppm) Operator %CH4 Mons 100 11/11/97 20.1 0.0 46.1 0.0 0.1 1829 0.6 69.7 15.8 115.5 0.0 1830 138.8 0.1 0.0 71.7 15.8 1831 744 0.0 15.7 145.6 0.0 1832 0.0 15.8 149.5 75.1 0.0 1833 0.0 15.6 (>27 0.0 794 1834 1112197 1921 13.8 32.5 011:0 1722 13.7 31.5 0-130 1923 31.8 0.280 1924 4.0 33.7 0-300 1925 4.2 13.6 31.8 0.0 1924 4.3 13.6 305 0.0 1927 4.4 134 30.3 0.0 7.3 1928 13.4 27.8 0.0 1000 11/13/97 10:05 10:05 PURGING 10.09 10.09 4.5 71.7 12.3 142 FA 11/13/17 16:17 478 4.38 6.75 5.02 6.70 5.00 5:*5*2 14/9A 89100 6.61 3 65PM 4.11 STATET PURGING 210 PM 20-0 0.0 0.0 42.2 1155AM 4.05 17.9 0.2 25 357 11/18/97 1141 3.30 19.8 0.2 0.3 283 11/18/97 1144 19.8 0.2 0.3 324 1147 19.8 0.2 0.3 357

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Vapor Monitoring Well 55 06-MP1 Test Location 5506 MP1C

	:	Vacuum (inches					,	!	
Date	Time	H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	
1419/97	1719	· · · · · · · · · · · · · · · · · · ·		14.4	7.2	>150	2.4	85.5	S J
	1730			14-1	7-4	>150		85-5 85-5	
	1735			14-1	7-2	> 150		85-5	
	;								
11/20/9	71745	3,47							
, ,	18061			20.9	0	0	6	9.7	5.7
	1812			20.2	0	0	0	8.9	
	1824			20.2	0	0	0.0	5.9	JP
11/20/97	1907	3.54							
	1913	100		16.0	3.6	46.5	0.92		55
	1917			16.0	3-6	46.8	0.27		
<u> </u>	1920	İ		16-0					
	192-3			16-0	3-7	48-3	0-27	194	
11/21/99	1540	3.59							
	1548			20.8	0	0.1	Ũ	12.9	7.2
	1553			20-8	0	0	0	13.8	
	1614			21,2	0	0	O	11.9	-
	1618			21-2	C	υ	0	11.9	
:17 (0		- 0/ 1							
11/22/4	7 1550	3.51		20.0			· 02_	2.77	(7
	1552				1.9	2.4		271	55
	1556			19-2	1-8	3.7	C	401	
	1559			19-2	1.7	5-4	0	467	
	16/6			18-9	1-8	7-6		602	
11/ 10		·2 ~ -							
11/23/77	13.58	2.75		12.0	7 /	101	0.51		
	13.59			13.9	7-6	68.6	0.21	150.5	72
	14.06			13.9	7-6	68-8	0-2-3	163	
	1409			13-9	7-6	72-7	0.21	164	
11/24/97	1				•	0	-		
~		-0.47		19.8	0,0	26,3	2,0	565	JP
	1213			19.7	0	10.6	2.0	539	72
	1220			j9.6	0.0	101	2.0	546	JP_
	1224			14.4	0,0	11,4	1.9	552	
						1			

FIGURE 6-9 DATA SHEET 2 - VAPOR MONITORING WELL RECORD WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MF/C Test Location 55.65	apor Monitoring Well MF/C	Test Location	5505
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Date Time H20 Temp. (F) % 02 % CO2 % CH4 % Helium PID (ppm) C 1/24/17 1625 -0.54 19.3 10.0 17.6 2.0 59.7 18.57 18.73 19.17 10.2 2.0 12.7 2.0 52.4 18.2 2.0 12.7 2.0 52.4 18.37 18.3						1		Vacuum		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								(inches		_
1832	n) Operator	PID (ppm)	% Helium				Temp. (F)			
16.77	JP		1					-0,54		11/24197
Aistory mas shope At 2/30. 1/26/0 22.00 19.6 0.00 31.2 1.9 435 22/3 19.6 0.00 26.0 1.9 471 22.06 19.6 0.00 26.7 1.3 455 22.10 19.6 0.00 26.7 1.9 439 1/25/9 = 17.02 19.0 0.5 55.0 1.6 50.6 1.76 1.76 19.0 0.5 57.1 1.6 486 1.712 19.1 0.5 57.6 1.5 477 1/26/97 1/15 17.6 0.6 65.7 1.6 445 1/20 1/76 0.5 66.5 1.6 445 1/28/97 1/350 1/5.0 1/5 6/1 1/0 1/562 1/30/97 1700 1/28 2.5 47.8 0.57 401 1/30/97 1140 10.7 3.7 56.0 0.21 367 1150 10.9 3.6 53.4 0.17 392 1157 1157 1101 6.8 4.8 64.5 0.26 401 1107 6.8 4.8 64.5 0.26 401 1107 6.8 4.8 64.5 0.26 401 1107 6.8 4.7 64.1 0.06 416 1111 6.9 4.7 63.3 0.06 427 12/9/97 1950 3.3 7.3 62.2 0.0 389 1955 3.4 7-3 59.7 0.0 392 2000 3.4 7-2 57.4 0.0 403		524	4 1			1				
19.6 5.00 25.0 1.9 471 22.06 19.6 5.00 26.0 1.9 471 22.06 19.6 0.00 26.7 1.3 455 22.10 19.6 0.00 26.7 1.9 439 19.5 0.00 29.7 1.9 439 19.6 19.0 0.5 55.0 1.6 506 17.6 19.0 0.5 57.1 1.6 486 17.12 19.1 0.5 55.6 1.5 477 11/21/97 11/5 17.6 0.6 65.7 1.6 485 11/28/97 13.50 17.6 0.5 61.5 1.6 11/28/97 13.50 15.0 1.5 0.7 11/28/97 13.50 15.0 1.5 0.7 11/28/97 13.50 12.8 2.5 478 0.57 401 11/30/97 17.00 12.8 2.5 478 0.57 401 12/497 1140 10.7 3.7 56.0 0.21 367 11/46 10.8 3.6 56.6 0.20 384 1150 10.9 3.6 53.4 0.17 392 1153 11-0 3.6 51.8 0.17 399 11/4/97 1101 6.8 4.8 64.5 0.06 401 1107 6.8 4.8 64.5 0.06 401 1107 6.8 4.8 64.5 0.06 401 1107 6.8 4.7 64.1 0.06 416 1111 6.9 4.7 63.3 0.06 427 12/9/97 1950 3.3 7.3 62.2 0.0 389 1955 3.4 7.3 59.7 0.0 392 2000 3.4 7.2 57.7 0.0 403		52%	2.0	<i>12,3</i>					1637	
19.6 5.00 25.0 1.9 471 22.06 19.6 5.00 26.0 1.9 471 22.06 19.6 0.00 26.7 1.3 455 22.10 19.6 0.00 26.7 1.9 439 19.5 0.00 29.7 1.9 439 19.6 19.0 0.5 55.0 1.6 506 17.6 19.0 0.5 57.1 1.6 486 17.12 19.1 0.5 55.6 1.5 477 11/21/97 11/5 17.6 0.6 65.7 1.6 485 11/28/97 13.50 17.6 0.5 61.5 1.6 11/28/97 13.50 15.0 1.5 0.7 11/28/97 13.50 15.0 1.5 0.7 11/28/97 13.50 12.8 2.5 478 0.57 401 11/30/97 17.00 12.8 2.5 478 0.57 401 12/497 1140 10.7 3.7 56.0 0.21 367 11/46 10.8 3.6 56.6 0.20 384 1150 10.9 3.6 53.4 0.17 392 1153 11-0 3.6 51.8 0.17 399 11/4/97 1101 6.8 4.8 64.5 0.06 401 1107 6.8 4.8 64.5 0.06 401 1107 6.8 4.8 64.5 0.06 401 1107 6.8 4.7 64.1 0.06 416 1111 6.9 4.7 63.3 0.06 427 12/9/97 1950 3.3 7.3 62.2 0.0 389 1955 3.4 7.3 59.7 0.0 392 2000 3.4 7.2 57.7 0.0 403							was she	Fangian	Par?	
19.6 0.00 26.7 1.3 455 2210 19.6 0.00 26.7 1.9 439 19.5 0.00 29.7 1.9 439 19.6 0.5 55.0 1.6 506 176 176 19.0 0.5 57.1 1.6 486 1712 19.1 0.5 55.6 1.5 477 1/26/97 1/15 13.6 0.6 65.7 1.6 445 1/28/97 1/350 13.6 15.0 1.5 61.7 10.7 1/28/97 1/350 15.0 1.5 61.7 10.7 1/28/97 1/350 15.0 1.4 59.8 1.7 1673 1/30/97 1700 12.8 2.5 47.8 0.57 401 1/28 2.4 46.5 0.52 411 12/497 1140 10.7 3.7 56.0 0.21 367 1150 10.9 3.6 53.4 0.17 392 1153 11.0 5.6 51.8 0.17 392 1157 1101 6.8 4.8 64.5 0.06 401 1107 6.8 4.8 64.5 0.06 401 1107 6.8 4.7 64.1 0.06 416 1111 6.9 4.7 63.3 0.06 427 12/9/97 1950 3.3 7.3 62.2 0.0 389 1955 3.4 7.3 59.7 0.0 392 2000 3.4 7.2 57.4 0.0 403	tin	475			0.00	19.6			2200	11/24/92
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					\$.00					
1/2 5/9 + 1702		455	1, 3		0.00					
1766		439	1,9	29.7	000	19.5			2210	
1766										
17-66	TZ	506	1-6	22-C	0.5	19.0			21702	11/2.5/97
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		486	1-6	57-1	0.5	-			1706	1 ()
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			1.5	22.6	0.5				1712	
1/20		451	1.6	65.7	06	17-6			1/15	11/26/97
1/28/97 /350	;	445	1.6	665	0.5	17-6				
1400			1.0	6/-/	1.5					11/28/97
1905	i i	1673	1./	59.8	1.4	15-0			1400	
1905			057	47.8		12-8			1700	11/30/97
12/497 1140 10.7 3.7 56.0 0.21 367 1146 10.8 3.6 56.6 0.20 384 1150 10.9 3.6 53.4 0.17 392 1153 11-0 3.6 51.8 0.17 399 11-101 6.8 4.8 64.5 0.06 401 1107 6.8 4.8 64.5 0.06 401 1107 6.8 4.7 64.1 0.06 416 1111 6.9 4.7 63.3 0.06 427 12/9/97 1950 3.3 7.3 62.2 0.0 389 1955 3.4 7-3 59.7 0.0 392 2000 3.4 7-2 57-4 0.0 403			0.52	46.5		12.8				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	35	367	0.21	56.0	3.7	10.7			1140	12/2/97
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			0.20	56.6	3.6	10.8			1146	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			0.17		3.6				1150	
12/4/97 - 1101 1104 1107				51-8	3-6	11-0			1153	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	137	404	0.07	66.6	4-8	6.8				12/4/97
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						6.8			1104	, ,
12/9/97 1950 3-3 7-3 62-2 0-0 389 1955 3-4 7-3 59-7 0-0 392 2000 3-4 7-2 57-4 0-0 403				64.1	4-7	6-8			1107	
12/9/97 1950 3.3 · 7.3 · 62·2 · 0·0 · 389 · 1955 3·4 · 7-3 · 59·7 · 0·0 · 392 · 2000 3·4 · 7-2 · 57·4 · 0·0 · 403			0.06						LIII	
2000 3.4 7.2 57.4 0.0 403										, ,
2000 3.4 7.2 57.4 0.0 403	FA	389	0-0	62.2	7.3	3.3 .		-	1950	12/9/97
2000 3.4 7.2 57.4 0.0 403	1 ''	392		59.7	7-3	3.4			1955	
						3.4			2000	
12/13/97 14/0 1.6 9.8 39.7 0 766					, 4-					
11.17	35	766	D	39.7	9.8	1.6			1410	12/13/97
1 1915 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		813	0	47.0	9-2	1.6			1413	1:1
1416 1.6 9.7 49.2 0 833	2	977			9.2	1.6				
1420 1.7 9.6 49.4 0 853	?	0 5 3								

Vapor Monitoring Well SSOG-MP2 Test Location SSOG-MPZA

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	i Operator
1111197	1	?			<u> </u>	<u> </u>	!		
	1839	i		11.2	6.8	2.8	0.0	145.	!
	1839	: 		11.6	6.1	2.7	0.0	130	
	1840 1841 1842		~~~			<u> </u>			
	1841	: 		128	6.0	2.0	0.0	713	i
	1042			11.6	6.1	2.3	6.0	707	!
	1843			11.5	6.1	2.4	0.0	720	
4	1844			11.5	6.1	25	0.0	725	
	1845								
		-							
11/12/97				 		!			
	2015			20.1	0.3	2.6	0.0		
	2016			20.1	0.3	2.6	0.0		
	2017			20.1		2.7	0.0		——————————————————————————————————————
	2018			20.1	0.3	2.7	0.0	2449	
	2019								
11/13/97						1			
10:15			PURS	ING				i	
10.20				17.9	2.1	2-8		896	
4/3/97	16.18	1.12							
							į		
	438	1.13			*		i i		
	500	1:13							
	554	1.07							
	72.23	100							-
	100014	1.09							
11/11/47	(4:200 A)								
11/14/97	9200 AT								
11/15/97	312 PH	069		START	PURGA				
1/2/2	317 PH			200	00	0.0		57.1	
1/17/97	126	0 69		18.4	00	2.0		83.0	
11/18/97	1203			20.7	0.00	0.00		120.0*	Men mil 81
	1207			21.0	0.00	000		93.1	
	1211	0 10		21.0	0.00	0000		81.0/62	,0 12 18
	,	0.63		21.0	0.00	0,00		55.6	

Vapor Monitoring Well SSO6-MP2 Test Location SSO6-MP2A

Date Time H20 Temp. (P) % 02 % CO2 % CH4 % Helium PID (ppm) Operator		:	Vacuum (inches				1		·	
			H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
175 0.68 201 0.0 2.0 10.2 1120/77 1414 0.66 1427 20.4 0.0 0.0 25.3 1432 20.4 0.0 0.0 0.0 24.6 1436 20.4 0.0 0.0 0.0 24.6 1436 20.4 0.0 0.0 0.0 24.6 1436 20.4 0.0 0.0 0.0 1437 20.2 0 0 0 0 1117 20.2 0 0 0 0 1137 20.2 0 0 0 1138 19.9 0 0 0 1207 19.7 0 0 0 202.7 1210 19.7 0 0 202.7 1227 1232 0.91 19.7 0 0 202.7 1128 20.0 0.2 0 0 18.6 1248 20.1 0.2 0 0 18.7 1129/97 1545 0.72 0 0 16.4 1651 20.2 0.7 0 0 16.4 1651 20.2 0.7 0 0 16.4 1651 20.3 0.1 0 0 16.4 1229 19.3 0 10.8 0 40.4 5.7 1236 18.1 0.3 5.0 0 31.8 1124/77 1640 -0.07 17.2 1.8 23.6 0.08 41.8 TP 1643 172 1.9 22.5 2.09 40.1 1644 172 1.9 22.5 2.09 40.1 1646 17.7 18.0 1.9 31.0 6.55 410 15.8 1144/97 22.14 18.0 1.9 31.0 6.55 410 15.8 1144/97 22.14 18.0 1.9 25.3 0.53 41.8 1144/97 22.14 18.0 1.9 25.3 0.53 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8 1144/97 22.14 18.0 1.9 25.3 0.55 41.8	11/19/97	1451			20.1	0.0				
1120 1727 174 0.66 20.4 0.0 0.0 25-3 1732 1732 20.4 0.0 0.0 0.0 24.6 1736 20.4 0.0 0.0 0.0 24.6 1736 20.4 0.0 0.0 0.0 24.6 1736 20.4 0.0 0.0 0.0 24.6 1736 20.2 0.0 0.0 0.0 1736 20.2 0.0 0.0 0.0 0.0 1736 20.2 0.0 0.0 0.0 0.0 1738		11755	0.68		20-1	0 0	10-6			
1427	11/20/97	1414								
1432	7	1427			20.4	0 - D	0.0		25-3	
1436										
11/21/97 11/6 0.83 20-2		1436			20.4	0.0		0 · c		
1117 202 0 0 0 0.7 1120 202 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0										
1117 202 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11/21/9	1116	0.83		20-2	•				ST
1120 20.2	1 1 1				202	\circ	0	0	0.7	
113									0	
172									·	
1207	+1/2									
1210 19.7 0 0 202.7 11/22/97 1232 0-91 1233 20.3 0.2 0 0 24.7 1245 20.0 6.2 0 0 18.6 1248 20.1 0.2 0 0 18.6 1248 20.1 0.2 0 0 18.7 11/23/97 1545 0.72 11/23/97 1545 0.72 11/23/97 1545 0.72 11/23/97 1554 20.6 0.2 0 0 323 1615 20.2 0.3 0.164 1651 20.2 0.3 0.164 1651 20.2 0.3 5.1 0 321 11/24/97 1226 -0.08 1229 19.3 0 10.8 0 404 55 1236 18.1 0.3 5.1 0 321 1236 18.1 0.3 5.0 0 318 11/24/97 1640 -0.07 17.2 1.8 23.6 0.08 418 5P 1646 17.2 1.9 22.5 0.09 401 1646 17.2 1.9 21.4 0.08 391 1646 17.2 1.9 21.4 0.08 391 1646 17.2 1.9 21.4 0.08 391 1646 17.2 1.9 21.4 0.08 391 1646 17.2 1.9 21.4 0.08 391 1646 17.2 1.9 21.4 0.08 391									7/27	
11/22/97 1232 0-91 1233 20·3 0·2 0 0 24·71 1245 20·0 0·2 0 0 18·6 1248 20·1 0·2 0 0 18·6 1248 20·1 0·2 0 0 18·6 1278 1/23/97 1545 20·6 0·2 0 0 323 1615 20·2 0·3 0 0 16·9 1651 20·2 0·3 0 0 16·9 1651 20·2 0·3 0 0 16·9 162/91 1651 20·2 0·3 0 0 16·9 1229 19·3 0 10·8 0 40·9 15 1236 18·1 0·3 5·1 0 331 1236 18·1 0·3 5·0 0 318 1124/97 1640 -0.07 17:2 1.8 23.6 0.08 418 JP 1643 172 1.9 22.5 0.9 40/1 1646 172 1.9 22.5 0.9 40/1 1646 172 1.9 21.4 0.08 39/1 1646 172 1.9 21.4 0.08 39/1 1646 172 1.9 21.4 0.08 39/1 1646 172 1.9 21.4 0.08 39/1 1646 172 1.9 21.4 0.08 39/1 1646 172 1.9 21.4 0.08 39/1 1646 172 1.9 21.4 0.08 39/1 1646 172 1.9 21.4 0.08 39/1 1646 173 0 1.9 31·0 6.55 410 43/2 22.17 18.0 1.9 25/3 0.53 418										
1/22/97 1232 0-91 1233 20-3 0-2 0 0 24.7 1245 20-0 0-2 0 0 18.6 1248 20-1 0-2 0 0 18.6 1248 20-1 0-2 0 0 18.7 1/23/97 1545 0.72 1/554 20-6 0.2 0 0 323 1615 20-2 0.3 0 0 164 1651 20-2 0.3 0 0 164 1651 20-2 0.3 0 0 159.9 1229 19-3 0 10-8 0 404 55 1233 18-1 0-3 5-0 0 318 1124/97 1640 -0.07 17.2 1.8 23.6 0.08 418 5P 1643 172 1.9 22.5 2.09 40/ 1646 172 1.9 21.4 208 39/ 11/24/97 22-17 18.0 1.9 31.0 6.55 410 4572 22-17 18.0 1.9 25.3 0.53 418					((- (- (- (- (- (- (- (- (- (
1233	11/22/9	1232	0-91							SIT
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1233			20.3	0.2	0	0	24.7	
1248 20.1 0.2 0 0 18.7 1/27/97 1545 0.72 20.6 0.2 0 0 323 1615 20.5 0.2 0 0 164 1651 20.2 0.3 0 0 159.9 1/24/97 1226 -0.08 19.3 0 10.8 0 404 55 1236 18.1 0.3 5.1 0 331 1236 18.1 0.3 5.0 0 318 1/24/97 1640 -0.07 17.2 1.8 23.6 0.08 418 5P 1643 17.2 1.9 22.5 0.09 40 1646 17.2 1.9 22.5 0.09 40 1646 17.2 1.9 22.5 0.09 39 11/24/97 22.14 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418						0.2	+			
1/23/97 1545 0.72 1554 20.6 0.2 0 0 323 1615 20.5 0.2 0 0 164 1651 20.2 0.3 0 164 1124/92 1226 -0.08 1229 18.2 0.3 5.1 0 321 1236 18.1 0.3 5.0 0 318 1124/97 1640 -0.07 17.2 1.8 23.6 0.08 418 5P 1643 172 1.9 22.5 2.09 401 1646 172 1.9 22.5 2.09 401 1646 172 1.9 22.5 2.09 401 1646 172 1.9 22.5 2.09 401 1646 172 1.9 22.5 2.09 401 1646 172 1.9 22.5 2.09 401 180 1.9 25.3 0.53 418					20.1			0		
1554 20.6 0.2 0 323 1615 20.5 0.2 0 0 323 1615 20.5 0.2 0 0 164 1651 20.2 0.7 0 0 159.9 1724 1226 -0.08 19.3 0 10.8 0 404 55 1239 18.2 0.3 5.1 0 331 1236 18.1 0.3 5.0 0 318 1236 18.1 0.3 5.0 0 318 172 1.8 23.6 0.08 418 54 1643 172 1.9 22.5 0.09 401 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 21.6 21.7 21.7 21.8 21.0 6.55 410 4582 22.17 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 18.0 1.9 25.3 0.53 418 18.0 1.9 18.0			·							
1554 20.6 0.2 0 323 1615 20.5 0.2 0 0 323 1615 20.5 0.2 0 0 164 1651 20.2 0.7 0 0 159.9 1724 1226 -0.08 19.3 0 10.8 0 404 55 1239 18.2 0.3 5.1 0 331 1236 18.1 0.3 5.0 0 318 1236 18.1 0.3 5.0 0 318 172 1.8 23.6 0.08 418 54 1643 172 1.9 22.5 0.09 401 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 20.8 391 1646 17.2 1.9 21.4 21.6 21.7 21.7 21.8 21.0 6.55 410 4582 22.17 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 25.3 0.53 418 18.0 1.9 18.0 1.9 25.3 0.53 418 18.0 1.9 18.0	11/23/97	1545	0.72							TZ
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$, , ,	1554			20.6	0.2	0	0	323	
1651 20.2 0.3 0 159.9 1229 19.3 0 10.8 0 404 5J 1233 18.2 0.3 5.1 0 331 1236 18.1 0.3 5.0 0 318 1124/97 1640 -0.07 17.2 1.8 23.6 0.08 418 JP 1643 172 1.9 22.5 0.09 401 17.2 1.9 22.5 0.09 401 17.2 1.9 21.4 0.08 391 17.2 1.9 21.4 0.08 391 11/24/97 22.14 18.0 1.9 31.0 6.55 410 ASP 22.17 18.0 1.9 25.3 0.53 418		1615			20.5	0.2	0		164	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1651			20.2	0.5	0	0		
1229 19.3 0 10.8 0 404 57 1233 18.2 0.3 5.1 0 331 1236 18-1 0.3 5-0 0 318 1124/97 1640 -0.07 17.2 1.8 23.6 0.08 418 JP 1643 172 1.9 22.5 6.09 401 1646 17.2 1.9 21.4 0.08 391 1646 17.2 1.9 21.4 0.08 391 1646 18.0 1.9 31.0 6.55 410 ASP 22-17 18.0 1.9 25.3 0.53 418										
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	11/24/9-	11226.	-0.08							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1229			19.3	0	10.8	0	404	SJ
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1233			18.2	0.3		0		
11/24/97 1640 -0.07 17.2 1.8 23.6 0.08 418 JP 1643 172 1.9 22.5 0.09 40/ 1646 17.2 1.9 21.4 0.08 39/ Prix Sympton was stought at 2130. 11/24/97 22.14 18.0 1.9 31.0 6.55 410 ASP 22-17 18.0 1.9 25.3 0.53 418		1236				0-3		6		
1643 17.2 1.9 22.5 2.09 401 17.2 1.9 21.4 0.08 391 Prix Symmetry wm storyed at 2130. 11/24/97 22.17 18.0 1.9 25.3 0.53 418	,									
1643 172 1.9 22.5 0.09 401 17.2 1.9 21.4 0.08 391 Air Sympton was storyed at 2130. 11/24/97 22.17 18.0 1.9 25.3 0.53 418	11124/97	1640	-0.07		17.2	1.8	23.6	0.08	418	TA
1646 17.2 1.9 21.4 0.08 391 Prix symmetry wm storyed at 2130. 11/24/97 2214 18.0 1.9 31.0 6.55 410 ASPC 2217 18.0 1.9 25.3 0.53 418		1643			17.2	1,9		1 i		
11/24/97 2214 18.0 1.9 31.0 6.55 410 ASPL 2217 18.0 1.9 25.3 0.53 418					17.2	1.9		1		
11/24/97 22/4 18.0 1.9 31.0 6.55 410 ASP 22-17 18.0 1.9 25.3 0.53 418			Air Some	so was	Storge	at 213	С.			
22 17 18.0 1.9 25.3 0.53 418	11/24/97	2214	' '					0.55	410	ASP
							1			
		2220			18.0	1.8	21.4	0.52	418	

11/25/97 1715 1725

19.7 1.0 5-6 0.32 737 SJ 19-8 1-1 0-6 0.43 428 19.9 1.1 0.5 0-44 377

Vapor Monitoring Well SS-06 Test Location MP2A

		Vacuum (inches		· ·	;		:	:	
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	1125			· · · · · · · · · · · · · · · · · · ·				1 4 2 2	<u> </u>
	// 25			19.0	0.7	2.1	0-36	4/2	FA
	1130		i 	18-9	0.7	0.8	0.38	305	
	11 35			18.9	07	07	0.42	275	
11/28/97	1420		_	18-9	-05	09	0-36		
	1520			18.8	0.5	0./	0.35	227	FA
				18.8	0.5	0/	038	215	····
11/30/97	17 20	_		18.8	04	0-7	0.28	230	
	1725			18.8	0.4	0.4	0.28	200	
12/2/97	1158			18-0	0.7	1.9	0.24	332	57
1 (1	1202			18-0	0.7	0.8	0.24	236	
	1206			(8.0	0.7	0.5	0.17	184	
	1209			18.0	0.7	0.3	0.17	152	
	1201	,		18-01	0.7	0.3	0.17	146	
12/4/97	11/8			17-0	1-0	0.7	0.14	298	72
1 1	1/23			17-0	1-0	0.3	0-13	194	
	1126			17.0	1.0	0.2	0-10	173	
	1129			17-0	1-0	0-2	0.10	152	
12/9/97	1645			16.8	1.2	$Q \cdot Q$	0.01	40.0	A5h
	1650			16.7	1.2	0.0	0.00	27.9	
	1655			16.7	1.2	D + 0	€ (O	23.9	
	1700			16.6	1.2	0:0	0.0	20.5	
12/13/97	1105			16.0	1.5	0	0	8.6	55
1	1110			16-0	1-7	D	0	7-7	
	1113			16-0	1-8	0	0	7.0	
	1120			16.0	1.8	O	0	7.0	
· · · · · · · ·									

Vapor Monitoring Well SSO6-MP2 Test Location SSO6-MP2B

	1	Vacuum	1		1	<u> </u>	1	1	
	_	(inches	!	1		1	Í		
Date	Time	H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
111197	1846	<u> </u>	ļ	1.6	13.3	25.9	00	308	
1	1847	<u> </u>		2.0	12.9	24.0	0.0	337	i
<u></u>	1848			2.3	12.7	ય.જ	0.0	345	
<u></u>	1849			2.6	12.4	19.8	0.0	384	
<u> </u>	1850				~~	-	0.0	401	H
	1851			3.3	12.1	17.4	0.0	44	
	1852			32	11.9	16.9	0.0	423	
-	853			3.4	11.8	16.4	0.0	431	
								131	
									$\overline{\mathcal{D}}$
								<u> </u>	
11/12/97	2002			17.8	2.2	8.3	0.0		
,	2003	1	^ ^		~ ~	<u></u>	<u> </u>		
	2004						VV	7/	
	2005			17.8	2.2	5.2	0.0		
	2006			17.9	2.2	4.5	0.0		
	2007			17.9	2.2	4.0	0.0		
	2008			17.9	2.2	3.6	0.0		
	2009			17.9	2.2	3.2		8028	1200
					4.5	ا هـ، ر	0.0	8000	1950
11/13/92	10.15		A	R6ING					
7 - 7	10:25			14.2	4.6	0.3		204	
					-, -, -			304	
11/13/97	420	1.43						<u> </u>	
7 , 7						<u> </u>			
	438	1.43							
						+			
	5:00	1.42							
	554	1.36							
				=	=				
	H(1070)	1.41						<u></u>	
11/14/97	4000 AM	1.40							
,	920								
11/15/97	3:20	0.56		RR61	1.12				
	3: 25			200					
11/17/97	12-15 PM	7.89		187	0.0	0.0		57-1	
, ,			/	07	001	6 D		74.0	

Vapor Monitoring Well SSO6 HP 2-B Test Location S506-MP 2-B

Date	Time	Vacuum (inches H20)	Temp (F)	% 02					
11/18/97	1 12 25	HEU)	Temp. (F)		%CO2	%CH4	% Helium	PID (ppm)	
	1228		<u> </u>	21.0	0.00	0.00	!	55.6*	
	1231	!		21.0	0.00	0.00		51.0	trevious to
	1234	0.78			0.00	0.00	!	490	
		0.70		21.0	0.0	0.00	 	47.0	
11/17/97	1652			7 2 4	12	+		9 /	
77.	1656	· · · · · · · · · · · · · · · · · · ·	<u> </u>	20-1	0.0	00		9.6	5 ブ
	1703	0-75		20.3	0 0 0 0	0.0		9.0	
								0 3	
11/20/97	1604	0.84							
	1614			20.4	0	0	0	12-6	55
	1619			20.5	0	U	0	11.9	
	1623	i		20.5	U	Ü	0	11.9	
11/21/97		0.99							**************************************
	1337			20.6	0	0	C	16.5	55
	1341			20-6	0	0	0	21.2	
	1344			20-6	0	0	0	28.5	
	1347			20.6	0	0	0	30.4	
11/2.2/97	1342	0-71					<u> </u>		
· / -> -/ t /	1405	- 1	-	19-4	0-4	0	62		. 55
	1408	- i				0	0	12-7	
	1411			19.5	0.4		<u> </u>	14-2	
	17 (1)			19:0	- 9 9	0	0	1(-1	
11/23/97	1806	0.86							SJ
	1209			20.1	0.2	0	0	263	
	1812			20.3	0.3	0	0	2491	
	1815			20.3	0-5	0	0	232	
11/24/97	1240	-0.09							
1/2 1/17	1242	0.01		16-3	1-5	17.2	0	335	<i>(</i> >
	1253			16.5	1-7	16.0		328	52
	1256			16.4	1.7	16-5	0	326	

18.

		16.7					<u> </u>	
		Water Level	i «c		0/5		Purge Rate	. •
Date	Time	1 /	Temp. (P)	pH	DO (mg/L)	ORP	(gpm)	Operator
	_				00% DO Mg/L		1	Operator
		MP 1-1			1 Mg/L		spc (ms)	
11/17/97	- 1150AI	410861/066	6.02	662	1.8.5	-27	1.327	FA
						-10-1	1.337	1
	1200	0 89/067	5.91	6.65		- 13.5	1.349	<u> </u>
							Spc	
11/18/97	1038	0.823/0.64	8.21	6.70	11.7/1.33	1.50	1.271	Asr
	10 49	C. 341/0.65		6.72	6.8/0.78		1.302	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	10 45	0.861/0.67	589	6.72	6-3/0.72		1.330	
	10 50	0.885/0.69		6.72	5.7/0.65		1.368	
	1055	0.903/0.70		6.72	5.66.65		1.392	:
11/19/97	1416	10.431/0.32		6.67	11.4/1.31	1		55
1	1429	0.435/0.33		1	10.2/1.10		0.670	-
	1439	0.435/033	8.91	€ € 8		-28.6	0 670	
	,				7-7-1		1	
1-1-197	1355	v 419/6-32	10.01	6.67	10.8/1.2	- 43.0	0 650	55
·	1400	0.430/0.32	7.92	6.71		-45-4	0.064	
	1405	0.435/0.38	9.83	6.73		- 49.5		
	1416	0 472/0.36	971	6 73	10-5/1-20	- 57.3	0.744	
11/21/97		0.269/0.20	6-69	6.69	26.3/3.07		0.419	SJ
	1031	0,2 =2/0 21	७१८	6.77		-14.5	2-435	
		0.292/0.22	7.37	682		-37.9	0.451	
	1044	0.3/2/0.23	7.59	6-86	8.1/0-96		0.4821	
	1102	0.342/0.26	7.78	6-89	9.5/1.13	-69.7	0.529	
1/22/0-	1.05	1 244/	5.71					
1/22/97		0344/020		6.65	31.4/3.97		0.529	55
	11/0	0 349/2.26		6 71	35.1/4 53		0 :76	
11/22/62		0 313/0.23	5-07	6 82	23.2/4.21		0.420	
1/23/97	1116	0.318/0.24	4-56	6.85	38-8/4 4	2-14-4	0.765	55
	1/23	0.2916.21	4-99	6.94	16.1/2.89	-16.2	0.433	
	1142	0-276/0.25	5.38	6 99	16.1/2.89	-12-8	814.0	
11/24/97	1100	0253/ 0	241	الرز مس				
1112-+177	1139	01071	3.41	7.14		<i>-34.7</i>		<i>J.P.</i>
	1145		8.35		10.6/1.24		0.397	
		0.261/0.19	9.34	7.18	11.2/1.32	-48.9	0.403	
	יניוו	0.268/0.20	8,46	7.19	12.2/1.43	-51.7	0.415	

1200 0,274/0,20 8.62 7.26 12.9/1.50 -53.4 0.423 sample collected for 5F6 - 1207 1206 0.280/0:21 8.91 7.26 13.8/1.59 -54.5 0.432

Groundwater Monitoring Well Mf1-D(Gw) Test Location 5506

	!	TDS / SAL				:	Sy C - S Purge Rate	
Date	Time	(feet bTOC)	Temp. (F)	р Н	DO (mg/L)	ORP	-(gpm)-	Operator
11/25/97		0.264/0.20		17.28	10-1/1-12	18.4:	0-404	SJ
 	1520	0.264/0.20	10.28	7-35	7-9/0.87	7-2-4	0.407	
		0-269/0.20		7.37	7-11 O. Re	-21.1	0-415	
		10.270/0 20			6-9/0.78			
	1531	0.271/0.20			6.810.76			
	İ	! !						
11/26/97	1044	0.237/0.18	8.76	7-14	15.7/1-83	-19.8	0.366	SJ
 		0.239/0.19		7,15	15.811.84		0.369	
	, •	0.24410.19			7		0.373	
		0.24510.18	8.46	7.21			0.378	
	1104	0.247/0.18	8-54	7.22	4 I 1			
		0-2470-18	8.46	7.23			0.380	
11/28/97		0266/020		6 95	103/116		0 408	FA
1		0 269/020			10-6/1.18	-45.2	0.414	
11/30/97		10.264/0.20		6.99	401/4.75		0.406	
		0 268/020		7.05	450/5.47		0.412	
		İ						
1=/2/97	0920	0.262/0.19	8-28	6.77	5.0/0.59	8:3	0.404	びプ
		0.266/0.20		7.17	4.4/0.53	-83.4	0.411	
		10.269/0.20		7-18	4.4/0.53		0.415	
	_	10-269/0-20		7-19	4-4/0.53		0.412	
		,						
12/4/97	1021	0.299/0.20	8.96	6.84	4.6/0.52	-0.5	0.460	55
7 1		6-30-010-22		6.92	4-3/0.49	-17-3	0-462	
		0.300/0.22			4.2/0.47		0.462	
	1036	0.304/0.23			4.3/0.50		0.467	
					(
12/13/97	1130	0-423/0.28	5-02	6.98	8-0/1-01	34-8	0.655	77
/ ,,,	1135	0.424/0.28	4-95	6.98	24/0.95	27-1	0.652	
	1140	0.426/0.28	4-84	6-98	24/0.95	18.4	0.623	
	1154	0.424/0.28	7-83	6.98	6.810.86	14-1	0.653	
		/			/			
				•	·			
				-				



Groundwater Monitoring Well MP 1-E (Giv) Test Location 5506

1	;	1115/3/16		1	:3/		Spenis	
İ		Water Level			%		Purge Rate	
Date	Time	(feet/bTOC)	Temp. (F) pH	DO (mg/L)	ORP	(gpm)	Operator
	ì							operator
1/17/9	7 1215/14				39.2	1-262	10993	FA
	1220	0 554/0 42	5.61	6.98	5.7	-65 4		
	1230	0553/04.	2 5.57	698	51	-706	0.85/	-
	<u>i</u>				120%/20			
11/13/97	1105	0.552/0.42	8.31	7.03	4.5/0.51	-63.5	0.852	ABR
	1110	0.555 10.42	8.53	7.05	4.1 10.47		0.855	
	1115	0.55810.42	5 84	7.06	3.8/0.44		0.859	
	1120	0.560/0.43	9.02	7.06		-75.0	0.863	
	1125	0.563/0.43		7.06	13.7/0.43		0.866	
	<u> </u>						100	
11/19/97	1449	0.303/02	2 8 5-8	690	9-1/1-06	1-47.2	6-459	55
ļ	1556	0 291/077			6.710.79	-50' Z	0-448	
	1503	0-292/022	3.28	6.99	6.1/0.71	-50.8	0.450	
		•			7		1 2	
11/2497	1429	0 324/024	8.90	6.74	25.3/2.71	4 91.9	0.438	55
	1434	024/019	9.06	7.02	8.5/0.98		0.401	
	1443	0.251/0-19	9.15	710	5-6/0-64	-80.5	0.388	
	1457	0.250/019	9.38	7.13	5-0/0.57		0.384	
11/21/97	1108	0357/027	7.27	6.71	22-8/2-84	- 64.9	0.551	ST
	1113	0.243/0.18	6-94	7.13	14-9/1.79	-70.3	0.364	
	1119	0.216/0.16	7.53	7.16	9.7/1.18	~ 89.c	0.332	
·	1124	0215/046	7.09	7-16	10.1/1.22	-92.6	0.330	
i. l. 2 /0 5		0.24/.4						
11/22/97		0 244/0 18		7-71	30.9/3-7	6 - 57-1	0.376	77
		0.244/0.18		7-06	36.0/4.74	- 49.3	0.374	
	1147	0.244/0-18	7.24	7.09	38-874.71	- 488	0.376	
11/23/0-	11=0	h 1 (7) - d	C 0-					
17-79	1159	0.258/0.19	5-47	7-15	380/4-72		0.3991	55
	1215	0. 221/016		1 1	50-1/6-77		0.334	
	1315	0212/0.16	6-25	7.39	46.8/5.71	13.0	0.326	
11/24/97	1211	Carl	751					
1-417			7.54		27.1/3.71		0,45%	J.P.
			8.57		59.0/6.88		2.326	
	1231 6	2-010/0-15	2.39	7.42		6-8	0-322	SJ
	1/2 /	20810-15	8.55	7-451	50.7/5-92	20.4	6-319	

1247 Sampling 1251 0-207/015 8-58 7-47 57-6/6.80 26.2 0.318

Groundwater Monitoring Well MP / E Test Location SSE 6

		Water Level	'c		F ₀	,	Spc ms	
Date	Time	(feet bTOC)		pН	DO (mg/L)	ORP	Purge/Rate (gpm)	Operator
11/25/97	1535	0.219/0.16		7.47			D.326	
	1538		9-81	7.46	40.1/4.43	- 40.0	0.320	
		10-206/0.15				1-31.0	0-317	
	1547	0.2070.15			22.6/2.7		0.320	
	1551	0.208/0.15		7-41	23.0/2.61		C.320	
		7			1 20/2/01	1 13 2	1 0.320	<u> </u>
11/26/97	11/3	0.245/0.18	7.63	7.32	34.9/4.16	-52.8	0.72.7	55
7 7	1117	0.232/0.17		7.71	4 30.3/3.	-41.8	373	30
	1120	0.224/0.1		J	26-2/3-1	_	1	
	1124	0.221/0.16		1 -	, /			
	1128	0.518/04(22.7/2			:
	1131	0.21610-10		7.39	21-6/25			**
11/28/97	1320	0.238/0/8	962	7-30	15:61 1:26	-32.6	0.366	FA
	1335	0 238/0/		7.33		2.0	0 366	7 71
11/30/97		0.263/020		714	27.4/3.2		<u> </u>	
	1645	0.266/0.20		717	26.9/3.19		0410	
					7		1	
12/2/47	1025	0.270/0.20	7.96	7-18	7-5/0.87	-817	0.417	57
′ /	1034		8-17	7.16	4.2/0.50		0.422	
	1039	0.273/0.20		7.15	4-2/0.50		0.419	
	1045	0.274/0.20		7-15	4-3/0.52		0.423	
		1	8-23		1 2/0 2 =		- (-)	
14/97	1044	0.3440.25	704	7.04	5.810.62	-42.6	0.522	TZ
	10 49	0-3400-25	8-7-8		4.9/0.58		0.255	
	1055	0.330/0.25	8.89	7-05	4.5/0.52		0.509	
	1059	0:330/0.25	8-96	7.06	4.5/0.52		0.508	
12/13/97	1212	0.426/0.32	4-40	7-02	27-3/3.56	-24.3	0.669	62
	1218	0-449/0.34	2.0	6-55	20.712.62	-23.7	0-693	
	1222	0.453/0.34	5-19	6.85	14-2/1-79	-20-9	0.696	
	1226	0-454/0-34	5-37	6.88	11.3/1.42	-18.5	0.697	
		/			,			
				VO				

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Groundwater Monitoring Well 1491-F (GW) Test Location 55-06

	- :	TOS/ML	***************************************	ော်		SPL NO	
Date	Time	Water Level	***	1		Purge Rate	_
Date		(feet bTOC) Temp. (F)	pH	DO (mg/L)	ORP	(gpm)	Operator
11/12/6	1250	10579/044 5.81	7.00	12 3	1	007	<u> </u>
1//////				13.4	-584		FA
		0 576/0 44 7.59		4.9	-928		
	1 105717	0571/044 808	715	43	-998	0.891	
. 1.102			!				
11/15/97	1	0.566/0.43 8.43	7.13	6.0/0.69	-76.9	0.374	ASK
	135	0.572/0.43 8.39	7.20	3.6/0.42	- 83.0	0.879	
	1140	0.574/0.44 8.45	7.22	3.4/0.40	-81.7	0.885	
	1145	0 575/0.44 8.48	7.22	3.2/0.38	- 33.3	0.886	
			<u> </u>				
11/19/97		0310/023 5.18	7.07	26.3/3.33	-47.5	0 47-6	SJ
	1520	C-309/0-23 4.91	7.06	23.5/2.45		0.47g	·
	1525	103091023 4-87	7.12	16.812.21		0.476	
	1	0 363/023 6 95	7.09		-47.1	0.471	
		0.313/023 7.37	7-13	6-0/0-73		c.484	
	1545	5-314/023 6-35	7.15	55/0.74		5 485	
		•					· · · · · · · · · · · · · · · · · · ·
11/20/97	1517	0.296/0.22 8.60	7-14	5-5/0-64	-110.3	0.463	SJ
	1521	0-366/023 8.42	716	5-1/0-60	-113.3	0.471	
	1527	0.304/023 8.66	1 7-18	5-0/0.59	-117.9	0-468	
	1533	a 305/0.23 8.49	7-17	4-9/ 8-28	- 117-6	0.469	
	1538	0-303/0.23 8-52	7-18	49/0.57	-120-4	0-466	
11/21/97	1131	0289021 6.69	7.06	18.4/2-14	-71.5	0.435	ST
	1136	0.295/0.22 7-69	7-00		-7-1.4	0.459	
	1144	0.311/0.27 6.98	7.04	8.6/1.05	-84.3	0.480	
	1151	0-311/0-23 6-90	7-05	8.2/1.00	88-1	0.478	
			1				
11/22/97	1155	0234/018 6-2-3	7-19	57.7/718	:44.5	0.366	15
11/22/97	1159	0.252/0.19 3 67	7-25			0.400	
	1220	0.315/0-23 6-67	6.98	11-3/1-37	-57.0	0.483	
		7			- / -	- ' ' -	
11/2-3/97	i323	0.210/0 16 6.89	7.41	56-8/2.08	-0.5	0.385	52
	1328	0.302/0.22 5.96	7-16	17.1/2.21		0 467	
	1335	0.309/0.23 5-95	7.11	13.911.74	8.3	0.473	
		''	'-'-	17 41	3 /	- (7)	
11/24/92	1302	0.208/0-15 8.74	7-40	57-9/6-08	35-0	0 721	-,7
1 417		2 2 28/	1 17	71 1/0 - 0	ノ ュ - 7	0.321	72

1311 0-208/0-15 8.82 **VEE**1315 Sampling
1319 0-208/0-15 8.91 7.46 52.2/6.03 40.1 0.320

Groundwater Monitoring Well MP 1 Test Location 5506

	:	TSDY SAK		i			Soc ms	<u> </u>
		Water Level	æ		2	!	Purge Rate	
Date	Time	(feet bTOC)		pН	DO (mg/L)		- (gpm) -	Operator
11125/77		0.201/0.21	9-24		36.7/4.20	-1-8	0.452	S J
	11605	0-31-10-21	9.2~	7.09	30.5/3-20	-261	0.485	
	1610	0-316/0-24	9-19	7.08	28.9/3.31	-34-7	0.487	*
ļ	1617	0-316/0.24	9-05	7.08	27.5/3-17	-41-5	0.486	
	1622	0.315/0.24	9.02	7.08	127-1/3-13	- 44.6	0 485	
11/26/97	1136	10.253/0.19	7 6.92	7.26	40.8/5.01	+-0.2	0.419	てと
	1141	0.304/0.23	7.68	7.14	43.6/5.1		0473	
	1146	0.314/0.2	4	7.11	39.414.6		0.486	
	1151	8.313 10.23	7.79	7.09	36.9/4.3			
11/28/97		0.303/0.23	4.08	1.15	56.1/6.45		0464	FA
<u> </u>	1405	0.320/0.24	9.21	7.11	46.2/5.30	-7.5	0.493	
11/30/97	1700	0.321/0.24	7.66	7-17	761-1/9.07		0.495	
	1705	0.320/0.24		717	75.3/896	29.9	0 493	
12/2/97	1052	0-314/2-23	7-31	7-14	48.5/6.03	-440	0.489	22
' '	1057	0.319/0.24	7.53	7-/4	56.9/6.81	-30-6	0.492	
	1102	0.317/0.24	7.77	7-13	53.8/6.41	-27.9	0.488	
	1110	0.317/0.24	7-77	7-12		- 27.6	0.486	
12/4/97	1109	0-345/0.26	8-65	7-12	45.7/5.68	-30.7	0.534	55
•	1114	0-348/0.26		7-15	57.2/6.67	-19.2	0.533	
	1120	0.345/0.26	8.22	7-14	52.2/6.15	-11.3	0.531	
	1127	0.343/0.26	8-43	7-14	49.915.83	- 9.0	0.528	
	_	•						
12/13/97	1241	0.361/0.27	5-35	714	63.2/7.96	- 8.3	0.225	35
	1243	0-356/0.26	5.45				0.546	
	1248	0-356/0.26	5-28	7-15	61·2/7·70 58·c/7·34	≥ 1.j	0.549	
	1252	0-350/0.26	5-20	7.15	55.5/203	5.9	0.238	
		,						
				, ,				
								

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Groundwater Monitoring Well $\frac{H\rho^2 2 - D}{}$ (61) Test Location

		TA-13			%	1	J. J. C 107J	
_		Water Level		1	/0		Purge Rate	
Date	Time	(feet bTOC)		pН	DO (mg/L)	ORP	(gpm)	Operator
11/17 /99		1160/0.91	97	64	7.2	-43.2	1828	1/
<u> </u>	117PM		9.73	6.41	1 3.77	-49,5	2,036	JAF
ļ	1:221	7,	9.67	6,42	0.76	-51.8	2.033	JAF
	1:2781	1.325/1.05	7.32	6.12	2.76	-53,2	12,057	JAP
- 1 2/	!							1
11/18/97	1155	1.3/4/1.04	9 39	6.49	63/0.71	-39.2	2.022	15sc
	1200	1.317/1.04	9,62	6.48	6.3/0.71	-34.3	2.027	+32
	1205	1.319/1,04	9.42	6.43	6.5/0.74	-38.7	2.028	AR
	1210	1.319/1.04	9.89	6.48	65/0.73	- 39.7	2.019	AZR
	1215	1.319/1.04	9.49	6.48	6.7/0.76	-40.5	2.029	13R
	<u> </u>	:						
11/19/97	1557	0-559/0.43	275	650	19-0/2-22	-29.1	0.934	5.7
'	1602	0.662/051	9.58	6.45	24.9/2.83	2.3.4	1.025	
	1610	0-679/0.52	9.55	6.46	25-4/2.29	-22-4	1-050	
	1615	0.695/053	9-62	6.45	24-9/2-82	- 15-8	1.066	
	1613	0.692/053	9-64	6.45	24-8/2-80	- 15-7	1-065	
	<u> </u>							
11/20/97	1551	0.566/0.43	7.27	6.58	28.4/3.22	-15-4	0-886	TZ
	1556	0.603/0.46	9.84	6.57	29.2/3.32		0-936	
	1541	0.617/0.47	9-92	6-56	29-1/3-29	-16.8	0.352	
	1612	0.626/0.48	4.57	6.56	29-0/3.70	-17.2	0.961	
·								
11/21/97	1155	0313/023	7.67	7.05	26:4/3.25	-74.5	0.482	3.5
	1205	10-554/0.42	7.56	6.57	23.9/2.25	4.2	733.0	· · · · · · · · · · · · · · · · · · ·
	1210	0.572/0.43	8-23	6.55		5-1	0.882	
	1217	10.581/0-44	8-34	6-54	24-2/2-82	3.4	0.89.3	
11/22/97	1325	10.475/0.36	6-59	6-64	25-1/3.02	- 6-8	0.747	55
		10-517/0-36			23-4/7.6-	7-3	0 807	
	1336	10-565/0-43	6-94	6-54	22-2/2-61	V3 · 1	8.87-1	
						· · · · · · · · · · · · · · · · · · ·	\	
11/23/9		10495/037	5-03	6.20	35-2/4-51	29.1	0783	7.2
	1353	0.539/0.41	4-20	6.74	34-4/446	48.6	0.832	
	1400	0.565/0.43	4.26	. 6.68	34-6/4-50	60.9	0.869	
					/		Ja 1	
11/24/97	1329	10-371/0.20	8.76	6-94	38.7/4.46	63-4	0.591	
1 1	1339	0479/038	2.34	6.80	36.3 /4.15	51,9		J.P.
					1	21/7	0,767	,τ,

1347 0.510/0.39 9.02 357/4.11 42,4 0.782 J.t.
1352 0.509/0.39 9.53 6.76

6.76

SFC sample collected at 13.54

Groundwater Monitoring Well MP 2D Test Location 5506

	:	TOS/SAL Water Level		· :	4 /N.	1/_	Spe ms	
Date	Time	_(feet bTOC)	Temp. (F)	pН	DO (mg/L)	ORP	_(gpm)_	Operator
11/25/17	1639	0-451/0-3			16-7/1-88		0.696	55
1 -1 -1	1649	0-457/0-35	,	6.83	16.611.87		0.705	
	1653	0-461/0-35		6.82	16.6/1-87		0.710	
	· · · / / / -	-0.463/0.35		6-81	16.5/1-85		0.713	
11/26/97		0 368/0.28		6.94	18-2/2-1	-20.4	0571	FA
	12.15	10.404031	9.10	6.88	22.0/2.54		0629	
		0 424/032	9.20	685	22.6/2.59	-21.4	0.652	
11/28/97	1415	0.347/0.26		7.05	11.9/1.34	-16.6	0.536	FA
	1425	0.368/0.27	10.17	7.00	12-8/1-43	-17.0	0.565	
11/30/97	17 20	0.329/0.25	9.97	7.08	4.8/0.54		0.508	
	1725	0.335/0.25		7-07	4-6/0 52		0.516	
				_				
12/2/97	1118	0.28.5/0.21	8-95	7.13	24-212-69	-35-9	0.443	ZZ
,	1132	0-309/0-23	8.41	7-05	4.8/0.56		0.474	
	1139	10.309/0.23	8.87	7.04	4.6/0.52		0.476	
	4	1			,			
12/4/97	1152	10.312/0.23	10-78	7.09	4.9/0.54	-40.4	0.481	72
, ,	1157	0-313/0-23	10-49	7-09	4.8/0.53	-44.2	0.481	
	1203	0.314/0.23	10-42	7-09	4-610-51	-49.1	0.485	
	1207	0.31570.24	10.39	7-08	4.5/0.50	-50.7	0.487	
	1210	0-316/0.24	10.43	7.08	4.5/0.50	-52.7	0.487	
		,			(
12/13/97	1304	0.334/0.25		7.15	41.5/5.30	16.4	0.508	22
	1309	0-331/0.25		7-13	22-9/2-91	8 · 8	0.511	
	1314	0.336/0.25	5.11	7.12	13.4/1.69	-0.6	0.516	
					,			
			-					

Groundwater Monitoring Well 49 2-E (64) Test Location S5 06

		This / she Water Level	α (· •	/0		Purge Rate	
Date	Time	(feet bTOC)	Temp. (F)	рH	DO (mg/L)	ORP	(gpm)	Operator
11/17/97	1:33 PM	* LATEUR					BF,	Operator
	1	10.721/1.1xi	3.74	6,93	4,9	877	1104	710
		6693/053		6.95	42	-97.7 -108 U	1.104	JAP FA
	1	<u> </u>	0 .50	1	72	7(6.)	1 / 007	<u> </u>
14/8/99	13:54	0.651/0.50	8.53	7.15	+ 4.3/0.50	704	1 5 - 1	!
7,011,	H:06	0.648/0,49	3.44	T T T T T T T T T T T T T T T T T T T		1	1.001	JAP)
	1475	0.646/0.49		7.17	3.5/0.41	- 47,6	0,996	JAP (
	1421	0.645/0.49	3-43		3.2/037	-56.3	0.994	ASE
	, , , , , ,	0,0+3/0.+3	<u> </u>	7. 18	3.2/0.37	-58.6	0.9.3	A3L)
11/18/97	1431	11/18/051	0	7.0/	122622	/	1070	
17/10/7/3	1	0.698/0.54		7.06	3.3/0.39	1	1.072	AFA
	1434	0.700/0.54	8.92	7.04	3.2/0.38	1	1.075	Am
	1451	0.695/0.53	8-79	7.03	3.2/0.37	-76.3	1.069	Am
11/10/0-	1623	- 100:	2 —		. (5.)			
11/19/97		0.6840 53	₹.5.3	6.41	26.9/325		1.069	T2
	1632	0.369/02	9-01	6.92	7-0/0-80		0-567	
	1640	0.364/0.27		6.92	6-2/0-71	-46-9	0-560	
	1645	0.364/0.27	9.06	6.92	5-9/0.68	- 49.3	0.560	
11120100	1/2		2 ~/	(00	122 //			
11/20/97	1620	0.426/0.32	8-26	6-88	27-43 62	- 61.9	0.597	T.Z
	1627	0.361/0.27	8-76	6-96	7-8/0.89	-84.4	0.225	
	1635	0.353/0.26	8.56	6-97	6.3/0.73	-90.3	0.543	
	1648	0.34710.26	8-61	6-98	5-710.68	- 93,3	0.535	
100	1007	51.4			'			
11/21/97		0.541/045	8.23	6.63	144.8/5.49	· - ५. ह	0.910	7.5
	1234	0-374/0-27	7.29	6-95	9.0/1.07	- 70.9	0.557	
	1241	0.334/0.25	8-30	8.97	6-7/0.79	-87-1	0.212	
	1246	0-333/0.25	8-40	6-98	69/082	- 89-7	0.514	
1:/2.2/97		0-341/0-25		7-06	8-6/1-05	-21-8	0.524	
		0.340/0.21			9-1/1-11	-21.2	0.523	
	1412	0:33 8/0.25	6.68	7.05	10/1/21	- 50.7	0.526	
					50.6/6:48	55.5	0863	
11/23/97		0-574/0,43	5.10	6.72	50.46.48		0.883	5 5
•		0.368/0.27	4.03	.7.01	11.1/1.43		0.554	
	1421	0.357/0.26	4-41	7-04	11.3/1.47		0.538	
					1			
1/25/97								
1				VO.				

Groundwater Monitoring Well MPZ-E (GW) Test Location 5506

		TDS/5AL Water Level	,		ilo/myll		SPC MS Purge Rate	
Date	Time	(feet bTOC)	Temp. (P)		DO (mg/L)	ORP	_ (gpm)	Operator
11/24/27	1403	0.374/028	3.50	7,04	23.3/2.13	-9.3	0.552	JP
	1408	0.334/0.25	3-61	7.08	28.6/3.34	-26.3	5.513	
	1414	0.324/0.24	8.56	7.09	326/3.82	- 30.8	0.498	
	1419	0.317/0.24	8.51	7.10	34.0/3.97		5.487	
	1422	6314/0.23	8.35	7.10	34.2/4.01		0,482	
			SFG same	6 collect	ted of 192			
11/25/97	1710	0.309/0.23	9.54	7-12	25-8/2-95	-27.9	0-473	SJ
/·t·/	1717	0-305/0.2						
	1724	0-305/0.23			32-0/3-65		·	
	1727	0-305/0-23		7-13	32-4/3-70		0.466	
		/ /			\\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\		100	
11/26/97	1350	0-295/0.7	2 3.68	7-17	38.4/4.47	-36.1	0.454	SJ
	1356	0.295/0 22		7-17	138.5/4-48		0.453	
	1401	0.295/0.12			38-514-48		0.453	
11/28/91	1440	7	4.49	7.20			0.452	FA
	15 00	0.29/0.20		7.21			0.450	
11/30/97		0 304/02		7.20		-20·0	0.468	
7,500	17 45	0.303/0.2	4	7-21	8.3/0.95		0.466	
		303/02			i '	al	0 406	
12/2/97	1151	287/0.21	8.13	7.17	812/0.62	-53.4	0.439	SJ
-/-/-		0-28570-21	8-53		6.0/0.70		0.439	
		0.284/0.21	8.45	7.17	6.5/0.77		0.438	
		0 1/0 -		/ (-	10.2/01/	11 6	8270	
12/4/97	1241	0.301/0.22	9-16	7-19	4.5/0.52	-40.3	0.461	· +
		0,299/0-22	9-47	7-19	1 - 1 - 1 -		0.462	77
		0:199 (0:22	1000			40.2		 i
	1322	0.299/0.22	9.73	7-19	4.6/0.53	-41·2 -42·9	0-461	
	1100	0.299/0-22	L TJ	+	1 (-0/0.73)	-727	0.461	
12/12/97	1376	0.362/0.27	6-10	7.12	3/1/2 90	- // ^	0.501	
-1, 114				7 00	31-0/3-99	(1.0	0.594	55
	1337	0.426/0.32	5.20	7.05	15.6/1.96	- 2 - 4	0.657	
	())T	1. (21/0.24	ا ۵ د ، ر	7-04	12.1/1.52	-4.6	0.661	
				·				
				· · · · · · · · · · · · · · · · · · ·				
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18.

Groundwater Monitoring Well $\frac{MP}{2-F}$ Test Location $\frac{SZOE}{2}$

	:	Water Level	, (1	:	10/0	17	7 C 100	
Date	Time	(feet bTOC)		pН	DO (mg/L)	ORP	Purge Rate	0====
	i	(100)	remp. (r)	· pii	DO (lig/L)	i-	(gpm)	Operator
11/12/97	200 PM	0.664/0.51	7.87	7.09	3.6	1-110-7	1021	FA
	208	0.661/0.50		7.10	3.5	-111.0	1.015	771
	1230	0659/05		7.10	3.2	-1119	1.015	
11/18/97		0.651/0.50		7.15	4.3/0,50	-39.4	1.001	305
	1406	0.648/0.49		7.17	3.5/0,41	- 47.6	0.996	SAP
	1416	0.646/0.49		7.19	3.2/0.37	1	0.394	MSR
	1621	0.645/0.49		7.18	3.2/0.37	-58.6	0. 993	AZK
		7		7 , 3	1,2/4.7/	100	V. 7/2	<u> </u>
11/19/97	1653	0-341/0-26	8.5	7-04	7.5/0.85	-61-7	0.526	27
1 1	1700	0.343/0.26	3.59	7.09	5-2/0.41		0-258	 -
	1708	0.346/0.26	8-62	7-10		-583	0.233	
	1714	10.348/0.21		7-10	4-8/0.56		0.536	
					1			
11/2997	1653	0.3460.2	8-33	7-03	24.8/2.9	-81.8	0.546	7.2
	1659	0.341/025		7-11	6.9/0.80			77.
	1705	0.34/0.25	7.82	7-15		-160.3		
11/21/97	1249	10.330/0-2	7.95	6-93	14.8/1.80	-84.2	0.508	Te
, ,	1254	0-331/0.25	7-62	7-24	7-9/0.91		0.512	
	1300	0.334/025		7.08	5-6/0-66			
	1305	0.33710.25	7-58	7-09	5-710-68	-102.3	0.519	
,								
11/22/9	2 1434	0.336/0.25	7-11	7-04	33,5/4.05	-49.3	0.518	SJ
	1439	0.337/0.25	7-01	7-04	33.4/4-05	-48-9	0.516	
	1446	0.336/0.25	6-66	7-05	34-7/4-24	-46.8	0.517	
					,			
1/23/97	1435	0-327/0.24	4-54	7-11	10.8/1.34	-50.7	0.427	22
		0-326/0.23	5-08	7-12	6.2/0.79	-63.4	0.472	
		0.309/0-23	3-88	7.13	56/0-73	-73.0	0-474	
	1452	0-366/0-23	4-60	7-14	5-5/0.71	-74-7	0.470	
	_	8707/			, ,			
1/24/97	1433	5.297/0.22	7.83	7.13	6.5/0:77	-45,5	0456	58
	i438	029/0.22	201	7.14	6.1/0,72	-55,2	0.454	
		0.293/0.22	7.94	7,14	6.2/0.73	-62.0	0.451	
	1447	0.292/0.22	7,78	7/15	6.2/0.74		0.449	
		sample	d for SF2	at 1448				

11/25/97 1734 0.302/0-23 9-16

Groundwater Monitoring Well MP 7-F Test Location 5506

					· ·	·		
		TDS/ SAL- Water Level		; 	70	<u> </u>	Purge Rate	
Date	Time	(feet bTOC)		pН	DO (mg/L)	ORP	(gpm)	Operator
11/25/9-		10-302/0-2		7-18		17 -40.1		55
		10.287/0.2	1 8.62		6.3/0.7		7 0.440	
		10.285/0.21			6.1/0.71			
		i				_	1	
11/26/97	1411	8-29-10.22	8.52	7.21	15-9/1-84	-35.6	0.446	Z Z
, , , ,	1416	0.289/0 22	8-5-9	7-21	162/1-80		0-445	<u> </u>
	1419	0288/0.22	8.57	7.21	16-1/1-87		0.444	
	1424	0.288/021	8-61	7-21	15-9/1-85		0.442	
11/28/97		0.290/022	9.03	7.25	9.2/1.07	-15.0	0.446	FA
	1550	0.290/0.22		7.25	8.7/0.99		0 447	
11/30/97		0.296/0.22	8.56	7-24	3.7/0.43	-18:3	0.456	
	18i0	0.297/022	8-63	7.24	36/0.42	-20.6	0.457	
							,	
12/2/97		0.291/0.22	8.20	7-19	5.9	-46-6	0.450	SJ
, , ,	1218	0.291/0.22	8,20	7.19	4.510.52	-47.4	0.448	
	1251	0. 294/0.22	8-43	7.19	4.1/0.48	-66.2	0-453	
12/4/97		0.30.40.23	9-14	7-24	3-710.43	-46.0	0.464	27
, , ,		0.304/0.23	10.00	7.24	5-3/0.59		0.469	
		0.305/0.23	9.85		3.6/0.41		0.466	
		/			7		<u> </u>	
12/13/97	1403	0-313/0.23	5-61	7.22	8.4/1.05	-(9-6	0.481	22
		<i>'</i> . '	5.59		7.9/0.98		0.482	
		2.314/0.23	5.27	7-24		-25.2	0.482	
	•	,			7			
								
						<u> </u>	<u> </u>	

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Groundwater Monitoring Well 199 3-10 Test Location 55-06

Date	Time	Water Level	ll		1/3	İ	Purge Rat	e
		(feet bTOC)			DO (mg/L)		(gpm)	Operator
117/97		11.047/0.82			5.6	-565		FA
	3:29	1054/08		652	5.7	1-580		1
:11: /02	3:34	1060/018		6 52		-58 C	1.632	
11/18/97		0.915/0.71		1 6.72	3.8/0.43	-56.1	1.424	1 AZR
	11505	0.961/0.75		6.63	4.4/0.51	-45.3	1-483	
	1511	0.982/0.76		6.63	4.7/0.53	3 -44.0	1.514	
	1516	0.992/0.77	9.33	6.61	4.8/0.50		1.529	
	1520	1.002/0.78	9.31	6.62	4.8/0.55		1.543	
· , -							1	
11/19/97	1733	0.741/0.57	9.18	6.40	8.5/0.78	-25-6	1.142	5J
/ /	1745	0,702/054	7,92-	6,41	15.9/1.22	-17.2	1.069	5P
	1754	0.718/0.55	9.05	6.42	8.2/0.95			1 2 1
	1803	0.718/0.55	7.30	6.43	3.1/0.93	-27.6	1,106	
-	18:3				311/0193	21,0	17.04	
#						<u> </u>		
11/20/97	17-36	10.518/0.34	3.46	6-92	6.5/0.76	-81.0	0-800	57
	18:21	0.575/0.44		6,92	6.6/8.77		0,885	
	18:30	0.580/0.44		6.91	7.1/0.82			JP
	1839	3,579/3.44	9.59	6,91			0.890	
	7				7.7/0.89	34/1	0390	
1//21/97	1319	10.349/0.26	8.28	7-31	6.4/0.75	-78.9	0.541	55
	1325	0-3740.28	8.36	7-12	6.0/0.71	-84-2	0.281	30
	1334	0.382/0.24	21.8	7-11	5-8/0-68		0.588	
				<u>'</u>	3 9 - 68	67.9	8 9 C	
1/2-2197	1539	0.305/0.23	8.24	7-21	8.2/0.97	- (>.3	0 1:70	
	1544	0-310/0.23	7.37	7.21	8.309/0.23			SJ
		0.308/0.23	7.23		8.7/1.05		0.475	
		7	7	/	6.79 1.03	- 0,5 - 7	1 1 -2 /	
1/23/97	1518	0.322/0.24	7.87	7.11	LD 1/514	57 (0 (-	
7//		0.291/0-22		7-16	40.1/5.41			15
	1529			7.34	36.7/4.69		0-447	
		0293/0-22	771	7-41	31-1/3-91	- 11.6	0.453	
124/97	1456	0.293/6.22	(0)					
L417 /	15 M	10.22	6.96	7.15	20.3 2.63		0.472	JP
	1508	0297/022	235	7,33	23.7/2.75		0.459	
i	1508	0,327/2	7.38		19.5/2.30		0.495	
i	1513	4370/	2.57		18.0/2.10		0.497	
	1518	0328/0.24	8,71	7.43	17.5/2.03 1	-1a5	0.504	



Groundwater Monitoring Well MP 3-D Test Location SS 06

	:	TDS/SPL					Spe	
		Water Level (feet bTOC)	عع عا	_	70		Purge Rate	,
Date	Time	(feet bTOC)	Temp. (F)	pН	DO (mg/L)	ORP	(gpm)	Operator
11/25/97	14-57	0.296/0.22	9-25	7.22	13.6/1.	14 -52.2	0.451	JJ
' /	18 03	0.292/0.22	9-36	7-21	5-9/0-67	<u>38.1</u>	0.449	
	1808	0.243/0.22		7.20	5.9/0.68	- 24.4	5-4-0	
!		/			- 1/			
11/26/97		0-2840.21	8-47	7-25	126-6/2.94	-45-1	0.441	SJ
	1441	0.282/821	9.44		16-7/1-91		0.433	
	1447	0-283/0-21	9-41		16.9/1.93		0.435	
	1451	0.284/0.21	9-41	7,25	17-5/2.00	-16.4	0.439	
11/28/97	1600	0 336/0.25			16-5/1-91		0-5/6	FA
	1610	0.318/024	9.56	7.21	7.8/0.89		0.491	
11/30/97		0.351/0.26	9.46	7.18	3.7/0.42		0.540	
		0.353/0.26	9.41	7.18	3.6/0.41	-/8.6	0.542	
				,,,,	7011		0 312	
12/2/97	1406	0.358/0.27	9.72	7.07	4.3/0.48	-51.2	0.552	55
1	1412	0.359/0.27	9.65	7-07	4-1/0.47	- 50.0	0.552	
	1423	0.361/0.27	8.77	マ・ロス	4.8/0.54	251.5	0.556	
	<u> </u>	2017012	0 1 1	<u> </u>	1.070.59	7(0)	20	
12/13/97	1425	0.642/0.49	5.60	6.95	27.4/3.32	-9 11	0.978	TZ
1 211	1429	1.62010 48	5.50					
	1436	0.63% 48 0.628/0.48	5.79		14.5/1.79		0.967	
		7 70	- 3/	- 3/-	10-171-33	13.7	0.966	
			-					
				•				

Groundwater Monitoring Well _ KA S- E Test Location ______SS-06

	:	10-1AC		1 1 100 120					
		Water Level			1. Paste		Purge Rate	1	
Date	Time	(feet bTOC)	Temp. (F)	pН	DO (mg/L)	ORP	(gpm)	Operator	
11/17/97	4:07PM	Durg ha	!						
	14:30 AN	1 0.845 11.300	8.93	6.91	0,48/4.2	-90.4	1,295	JAF	
	4115	0.325/1.269	903	6.91		-92.6	1.270	<u> </u>	
11/18/97	1525	0.839/0.65		6-92	4.7/0.53		1-287	ASR	
	1530	0.832/0.64		6.95	4.0/0.46		1.2.80		
	1537	0.826/0.64		6.96	3.7/0.42		1.270		
	1542	0.825/0.64	8.83	6.97	3.6/0.42		1.269		
ii/19/97	16'13	0.396/0.30	9.54	6,30	25.3/2.33	-8.7.	0.607	JP	
	16:18	0.395/0.30		6,30	26.3/301	-41	0.612	- J F	
	16:25	0,404/0.30		6.87	26.2/297		0.623		
	1632	DA08/0.31		6.83	23.7/2.69		1	<u> </u>	
		i				1071	0.627		
11/20/9	2 1844	0.569/0.4	3 8-01	6-94	29.6/2.4	6 - 78.4	0.778	22	
, ,,	1847	0-474/03	5 R-46	6.95	50-1/5-9	9 -45.7			
	1850	0.412/0.3				-6-2			
	1856	10.396/036	8-7-3	6.92	5041/5-84		0.609		
	1902	0.396/0.50	2.87	6.92		5-0.9			
					/				
1/21/17	1345	0.398/0.30	7.90	6.92	35-6/4.24	1 -30.6	0.615	75	
	1402	0404/030	6.85	6.88	35-9/4.3	5 -15.0	0.621		
	1407	0403/0.50	7-17	6.87	35-6/4-28	-16.4	0-621		
	14/1	0.404/0.30	74(0	6-84	34.8/4.19	- 17-1	0.622		
		•							
11/22/97	1626	0.321/0-24		7-19	17-8/2-16	-66-8	6-495	22	
	1631	0-322/0.24		7-20	35-2/4-42	- 59-3	35510		
	1636	0-370/0.28	6.36	6 · 99	26.1/3.22	-33:7	0526		
:/- 2/-									
11/23/97	1536	0.316/0-23	5.77	7-44	39-3/4-96		0.486	55	
	1541	0-364/0-27	3.61	7-18	38-2/5-06	1-8	0.261		
	1548	0-371/0-28	4.22	6-95	40-5/5.28	32.2	0-574		
		C 7 - /			·				
11/24/97		0.329/0.25	8.23		17,2/2.03	-1.0	0,507	JP	
		0.330/025	7.91	7.43	17.0/2.02	3.1	0,509		
		0.331/0.25	7.38	7.43	17.1/2.06	8,1	0.510		
	1545	0.331/0.25	7.05	7.43	17.2/2.69	10.7	0.510		
			For FE	d 1518		rop purg			
	1554 C	0.314/0.23	5:72/7.17	$\nabla Q =$	42.0/5.29		0.486	JP	

155 \$ 0.314/0.23 5:72/7.17 \$ \$ 42.0/5.29 22.1 0.486 1600 0.332/0.25 6.55/7.04 \$ 51.8/6.34 14.6 0.512 1605 0.341/0.25 6.20/7.00 522/6.36 6.0 0.527 1610 0.345/0.24 6.56/6.98 50.2/6.16 3.6 0.533

42.0/5.29 22.1 0.486 51.8/6.34 14.6 0.512

Sampled for SFG at 1613

Groundwater Monitoring Well MP3E Test Location 5506

=			TDS/SAL Water Level	عع		2		Spc_ Purge Kate	•
	Date	Time	(feet bTØC)		pН	DO (mg/L)	ORP	(gpm)	Operator
_	11/25/97	1814	0-318/0-24	8-87		10.4/1.17	-22-1	0.497	55
	1 11	1819	0.321/0.26	-			-41-2		<u>; </u>
•		1825	0.339/0.25			7-1/0-83		0.524	·
-		1837		8:86		8.7/1.01 -			
			1			1			
	11/26/97	1507	0.331/0-25	8-96	6.99	16.2/1.06	-51.2	0.519	55
		1512	0.347/0.26	8-83	6-98		- 56-6	0-535	
		1518	10.350/0.26	8.95			- 58.9	0.540	
_		1525	0.350/0.26	8-80	6-97		-28.9	0.539	<u> </u>
\rightarrow	11/28/97	1705	0346/026	3.93	7.06	55-3/7-25	-214	0532	-FA
LYYUY	oic-	1715	0 342/0 26	8 52			-381	0.530	:
	,	1720	0347/026	8.86			-43.0	0 535	
od by	1//30/97	1825	0.4/8/0.3/	8.49	7.04		-61.9	0.644	
J		1830	0.418/0.31	9.00	7.06	14.3/0.50 -	-66.8	0.642	
				į		6.9			
	12/2/97	1834.	0.465/0.35	8.72	6.95		-83.9	6.712	TZ
_	, ,	1845	0.469/0.35	8-25	6-97	5-8/0.67 -	-90.7	0.721	
		1850	0.468/0-35	8-06	6-97	6.1/0.68 -	-92.1	0.720	
						/			
	12/13/97	1447	0-573/0.39	4.66	6.99	31.5/4.01 -	-17.9	0.804	72
	, ,	1450	0.483/0.36	5.28	7.00	25.9/3.23 -	-20.5	0.720	
		1454	0.439/0.33	5-90	6.96	16.1/2.00	-24.3	0.671	
		1500	0. 424/0.32	7.53	6.93	11.4/1.36 -	-29.7	0.662	
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Groundwater Monitoring Well MP-4D Test Location 55-06

	; ; ;	TDS/DAL Water Level	Ħ	1	00%/	į	Sp c Purge Rate	
Date	Time	(feet bTOC)	Temp. (F)	р Н	DO (mg/L)	ORP	(gpm)	0
11/25/97	18,54	0.339/0-25	7.95	760	98.9/11.7	3 74:3	(gpiii)	Operator
	2147	U-510/03	7 9-11	7-14	24-7/2-6	22-4	0-810	Asr-
	2152	01552/01					0.857	2.2
	2158	0.580/0.44				-40-0		
11/26/97	1610	0.55/0.39	8.63	6.70	180/2.11	-34.1	0.896	
	1615	0-604/0-4		6 67		1-33.5	0.929	FFT
	1625	0.602/0.4		6.67	20.5/2.4			
11/28/9-	7 1740			6.65		 	0.934	
7	1750			6.64	1/1/1/			
11/30/97	1850	0 634/04	19 9.69	6.65				
1727	1855	0 644/04		6.63		-23-0	0.983	
	<u> </u>	- 517/04	1 1 54	0 05	4-8/0.54	-20-1	0.99/	
12/2/97	1513	0.612/0.4	7 8:54	6.60	12 > 1 1	77.		
- / / / /	1518	0.	6.21	6.60	13.3/1.54		0.949	55
		10.629/0,48	3 8-34	6-50	1 01		the state of	ion
						Jan Jr.	Naturet	
	1773	0-63570.41	8 8.49	1	5.3/0.62	-50+2	0.976	
	17-23	0-635/0.4	9 8.60	6-57	5-3/0.61	-30.5	0.979	
2/12/92	1512	0.581/0.45	- (5.2.2	1 2	15 010 -			
1.3/11	1523	0-708/0.50	5-7-2		66-9/8-35	- 11-3	0.984	55
	1528	0.711/0.54	5-78		19-3/2-38	-(8-7	1.095	
		Filyorsy	2,27	6.61	15-1/1.88	-210	1.094	
		 						
								
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Groundwater Monitoring Well 4-D Test Location 55-06

		IDICAL	:				3.3 € 15¢.	
	!	Water Level		1 4 •			Purge Rate	
Date	Time	(feet bTOC)	Temp. (F)	pН	DO (mg/L)	ORP	(gpm)	Operator
	!				1	i	1	
11/17/97	450f1	4/002/078	8.91	6 68	7.8	1-48.3	1.573	FA
	500PM	1.128/058	4.76	1 6 59	5.5	-60.0	1.736	
		1.144/0.40	9,82	6.58	55/0.13	-67.5	1.764	JAP
	52.9 PM	1,16.8/0,92	7.00	6,58	55/0.61		1,798	
11/18/97	15:56	1.114/0.87	2.34	6,66	4.9/0.57	-40.3	11.716	JAP
	1602	1.123/0.88	8.90	6 66	5.1/0.58	1	1.729	42
	1608	1.12910.38	8.84	6.65	5.2/0.60	i	1.738	ALL
	1614	1.134/0.89	9.05	6.65	52/0.50	-38.0	1.747	ASA
	1620	1141/039	9.06	6.64	5-3/0.61	1	1.757	136
	1625	1.147/0.90	8.84	6-64	5.3/0.62	-40.0	1.72;	Azr
+1/14/9								
11/19/97	18:41	0.564/0.43	10.22	6,55	7.4/0,83	-z4.1	0,909	JA
	18:47	0.633/0.48	10.27	6.54	70/0.78	-28.5	0.777	
	18:55	0.653/0,50	10,18	6.55	7.1/0.79	-31.8	1.006	
	1900	0.062/0.51	9.89	6.50	7.0/0.80	-33,0	1.022	
::11-								
11/20/97		0.399/0.30	8.21	7-41	93.8/11.16	-61.4	0.613	55
		0-398/0.30	7-94	7-62-	100.5/11.9			· · · · · · · · · · · · · · · · · · ·
	1925	0.394/0.30	7-44	7-92	106.5/12.8	20 - 73.7	0.606	
1110.100	://5.0					- 50. q		
11/21/97		0-542/0.41	5-31	7-02	68.2/8.20	·····	0.826	55
		0.57710.44	7.51	6-63	14-4/1.71		0.893	
	1443	0.591/0.45	7-49	6-61	8.9/1.06	-52.3	0,912	
	1453	0.60410.46	7-42	6.60	7-7/0-12	<u>- 56.3</u>	0-732	
11/22/97	160	2001200	1.21	ے <u>، ر</u>	21-91,-		6 4 -	
1-1/17		0.404030	2 1	7-17	81-9/10.12		0.60	55
				6-87	367/4.39		 	
	· + 08	0 396/0.30	3· / 1	e-t/	11-9/1-45	-52-4	0.615	
11/2 4 /97	1624	0.534/0.41	6.75	6.70	10.2/	= 10 i	0.017	——————————————————————————————————————
1 1(1/	1630		6.12		10,2/1,23		0,843	JP
	1635		7,08	668 669		-293 - 221	0,925	
	1640		6.89			-33,4	0.935	
	1645			6,69	1		0.948	
		empled for			8.7/1.05	21.9	עדו נט	
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Groundwater Monitoring Well 4-E Test Location 5506

	1	11000 (210)		·····	: "/0		14.(10)	
	-	Water Level	_				Purge Rate	
Date	Time	(feet bTOC)		pН	DO (mg/L)		(gpm)	Operator
11/17/97	5:27	0.879/9.68		6.78	11.1 /1.28	-60.3	1.329	JAP
	5:32	2,331/0,6A		6.80	16,4/0,74	-77,6	1,230	
	5'.43	0,818/0.63	3.62	6.81	4.2/0.48	-86,9	1.260	
	5:50	0.817/0.63	8,50	6.81	4.0/0.40	- 37. 5	1,257	
		1						
11/18/97	1637	0.334/0.64		6-86	44/052	-69.9	1.232	ASR
	1645	0.823/0.63	7.05	6.98	3.9/0.46	-72-3	1.266	136
	1650	0.819/0.63	8.15	6.88	3.8/0.44		1.258	P3N
	1657	0.814/0.63	7.95	6.38	3.810.49		1.252	AZA
	1707	0.812/0.63	8.08	6.28	3.7/0.43	i	1.249	Azai
		ļ t						1.2"
11/19/97	1916	0129/0.32	9.29	6,80	5.4/0.61	-57:7	0-660	JP
	1924	0.430/0,3z	7,40	6,81	5.20.60		0.661	
	1930	DA30/0.32	9.37	6.81	5.2/0.59		0.662	
					İ			
11/2-0/97	1939	0-389/0.29	6-18	8.27	1101/13.6	4 -3.1	0-598	tz
	1943	10.388/028	5-89	8.31		7 6.9	0-597	
	1948	0.388/0.29	5-61	8.34	110.6/13.		0.596	
							3.0	
11/21/97	1508	10.543/0 39	5-66	6-78	33-0/4-05	-65-3	0.742	55
	1529	0.413/031	6.41	6.79	5-6/0.69		0:633	
	1535	10:412/031	6-50	6.80	5-6/0.68		0.634	
11/22/97	- 1733	0.484/036	6-27	6-91	6.61/27	2 - 59.8	0-621	55
	1738	0.454038		6-97	1 /			
	1745			6-7-8				
				<u> </u>		2 1	- 0.7	
11/24/97	1657	0AZ9/03Z	6.26	6.8Z	10.2/1,22	-55,4	0.629	JP
,	1702	C-397/0-30	6.33	6.82		-62.2	0.610	
	1707	0.393/0.29	6.32	6,82	7.1/0,89		0.604	
	17/70	0.393/0.29	6.61	6-82	6-8/8.83		0.604	35
	1726				7.0/0.85		0.611	-20-
	1730	Sample	ma		1 33		3.7	
11/25/97		0.3970.30 Sample 0.414/0.31	8.68	. 6.86	11.3/1.28	-66.9	0.628	35
	10/4	0.400/0:30	8.68	6-85	8-9/1.03		0.614	
	1019	0.396/030	8.61	6.86	8.3/0.96		0.608	
					3 -7 0.10	147		
			1					

-8%

Groundwater Monitoring Well SS 06 Test Location MP 4-E

	: :	TOS/SAL Water Level			%/mg/L		Salms	
Date	Time	(feet ATOC)	Temp. (F)	pН	1		Purge Rate	Operator
11/26/9	1640	(feet 6TOC)	8:10	6.83	10/2/2:2	-66.5	(gpm) 0-626	FA
	1650	0.401/0.3	8.27	6.83	18.7/2.19	-67.5	0.6/2	174
11/28/97	1835	0395/03	8.75	6.85	13.2/1.54	-50-2	0.606	
11/28/97	1815	0389/029	8.62	6.87	12.7/1.48	-55.6	6-599	
11/30/97	1905	0.399/0.30	8.80	6.85	4.1/0.4	1-61.6	0.612	
14041	1910	0.392/029	8.90	6.87	3.4/0.43	-67-0	0.604	
					7/3			
12/2/97	1731	0.413/0.31	7-66	6.7-4	6.8/0.78	- 66. 7	0.626	55
110	1736	0.39710-80	7.80	6.79				
	17-41	0.387,0.29	7.76	6-80	4.5/0.53	- 81.9	0,593	
		0.383/0.29		6.81	4.3/0.51	- 83.6	0.588	
		1 ' [1	
12/13/97	- 1543	0-549/0.41	6-46	6-73	26.013.15	-13.7	0.827	22
	1548	D513/0-39	7.26	6-75	13.2/1.58	-27.5	0.787	
	1553	0.511/0.39	6-85	6.76	18.3/1.59	-30.7	0.7841	
	1557	0.5/1/0.39	6.44	6.76	19.3/1.58	-35.6	0.786	
					/			
							<u> </u>	
								

-8%

Groundwater Monitoring Well 49 5-D Test Location

		ias/sinc			- /		(J) (. N)	
	•	Water Level		i	3/3	1	Purge Rate	
Date	Time	(feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	(gpm)	Operator
11/17/97	5:55	PM 0215/0.63	6.69	7.05	30.3/4.18		11254	JAP.
	600	1.19 VI	5.15	7.38	39:1/11.41		1,223	763
	6:29	on 1.660/1.32	7.19	6.55	30.4/3.65		2.561	
		1.776/125	7.26	6.53	7.4/0.88	- 201	2,427	·
	7:03	1.52 / 1.20	6.94	2.91	5.8/0.70	-35.2	2,340	JAP
1.00	1719	t-						_ J
11/18/93	4719	1-506/1-24	9.70	6.60	5-8/0-65	-41-4	12.398	85
<u> </u>	1724	1.524/1.21	9.66	6.59	60/0:67		2.338	ASP
	1729	1.493/1-19	9.73	6.57	6.1/0.69	,	2.290	ASR
	1734	1.467/1.16	9.75	6.57	6.1/0.69	-42.6	2-253	Ayr
	1739	1. 449/1.15	9.77	6.57	6 2/0.70		2.227	ABA
	1749	11, 413/1.12	9.68	656	5,4/0.62		2.179	Ask
	<u> </u>	!				,		///
11/19/97	1941	0.778/0.60	10.35	6,51	7.1/0.79	-31,1	1.210	JP
	1946	10.796/0.61	10.24	6,50	1 i	-30,7	1,223	
	1953		10.35	6,50	7,5/0,84	-32,5	1.201	
	1959	0773/0.60	10.31	6.49	1	-33.3	1,189	
11/0-2/07	2001	1000/						
11/20/97	2010	0.386/0.29		8-42	110.9/14.2	6 32-4		SJ
	2015	0.385/0.29	4-32	8.45	110.8/14.3		0.592	
		10.38570:29	4-15	8.47	110.7/14.4	39.3	0.591	
11/21/97	1551	0.73810.56	11 - 11					
-1/2/17	1615		4.34	6.57	34.1/4-06	-46.0	1.158	SÜ
· · · · · · · · · · · · · · · · · · ·	1621	0.823/0.94		6-48			1.264	
	1625	0.812/0.62	6.57	6.48	7.5/0.91	- 44.7	1.247	
	.023	0:809/0.62	6-55	6-48	7-5/0-92	- 45-5	1.241	
11/22/97	17-59	0.577/0.40	0-	7 1-	0.001		- 00	
1-1-1-1	1804			7.17	85-7/10.5			SJ
		0.562/041	1 6-82	7.57	97.4/12		0-861	
	· · · · / ·	0 7 62 7 014 1	5.05	7.57	112-5/11	1 -106-2	0.882	
11/24/97	1751	0.776/0.60	7-45	/ :-1	9/11	-36.9		
	1801	0.847/0.65		6.51	9.6/1.16		1.536	55
	1806	0.83570.64	8.06	6-50	19-22/1.72		1.289	
	1814	0-834/0.64	8-27	.6-50	10.1/4.16	-39.5	1.280	
	1818	San pli	12 "	.6 50	10-7/1-26	7079	1.281	
11/25/97	2230	0.643/0.49	8.11	6.55	21.7/2.40	- 46.0	1,020	
1-11-	,	- 17			-1.7/2.40	11, 4	1.0391	55

2275 0.7240.56 9-09 6-50 13-1/1-49 -37.7 1.131 2240 0.770/0.59 9-23 6-51 11-4/1.31 - 42-9 1.200 2247 0.792/0.61 9-20 6-51 11-4/1.30 -43-6 1-220

Groundwater Monitoring Well S5-06 Test Location 4P5-0

	1	TOS/SAL	,		9/		GOL MS	
		Water Level	~		10/		Purge Rate	
Date	Time	(feet bTOC)	Temp. (F)	pΗ	DO (mg/L)	ORP	(gom)	Operator
11/28/97		(feet bTOC) 0.687/0.53	8.23	pH 6 5/	31.7/3.73	-37.3	Purge Rate (gpm)	FA
	1710	0.802/0.62	- 9.01	6.51	37.0/4-26	5-35.3	1-235	
	1715	0804/062		6.51	35.3/406		1.236	
11/28/97	1820	0.714/0.5		6.52	12-9/1-49		1.108	
11/28/97	1830	080/062	4.60	6.52	19:1/2:16		1.235	//
11/30/07	71930	0.824/064	+ 4.96	6:52	5.0/0.57	-38-1	1.235	-
1.7.50//	1930	0.836/0.65	9.80	6.52	5.0/0.57	-28.2	1.287	
	· · · · ·	13700	, , , ,	0 32	,, ,	<u> </u>	7 2 3 7	
12/2/97	-1800	0.753/03	8 9-29	6.43	6.1/0,70	-44.7	1.167	55
1-1-1-1	1206	0.753/0.5	c 9:7-1	1	6.3/0.73			
	1811	0.787/0.6	9.54	6.45	6.2/0.72	~ 47.2	1.214	
	, , , ,	10/0.0		8. (3				
12/13/97	1606	0.801/0.61	4.41	6-63	26.3/3.23	-25.1	1.247	25
1 1	1611	0.825/0.65	, 5-82	6.54	15.3/1.89	-17.5	1.278	
	1617	0.851/0.66	6-26	6.50	16.5/2.03	-14-8	(.323	
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Groundwater Monitoring Well $\mu\rho \leq E$ Test Location

Dete		Water Level	1		· /s:		Purge Kate	!
Date	Time	(feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	(gpm)	Operator
11/12/97	4:02 P	, , , , , , , , , , , , , , , , , , , ,	· · · · · · · · · · · · · · · · · · ·	<u> </u>	/ ;			
ļ	4:03 PM	1026/1543	7.34	6.78	0,57	1-79,4	1,593	JAP
	4:14 PM	1 1.030/1585	7.53	6.79	0.55	-84.0	1.536	<u> </u>
	4:22 1	4 1.018/1565	679355	6:19	0,51	-87.3	1,564	
	<u> </u>	1 1		-				
11/18/02		11.042/0.81	8.12	6.84	5,96.68	-61.2	1.596	ABR
	1813	1.028/0.80	7.92	6.86	4,5/0.54		1.581	ASC
	1825	1.026/3.80	7.57	6.87	4.3/0.51	-63-5	1.579	Azn
			·		11.70.31	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	+ 19	7/3/-
11/19/97	2008	0.555/0.42	8.84	6,77	7:7/0.89	- 50.1	0.04-	
	2014	0.535/0.41	8.63	6,80	1		0.847	JP
	2021	C531/0.40	8,46	6.81	6.0/0.69		0.823	
	2032	10:529/0.40	8.26	6.82	5.7/0.66	<u> </u>	0.818	
1		27,017	8:20	0.02	5-4/0,64	-24.6	0,813	ムチ
11/20/97	13.55	0-419/0	12 (0.0)	1 / 12	10 011	(15 -		
	1400	0.439032			10.8/1.22		0650	33
	1405	0.435/0.53	9-92	671	10-6/1.19	-45.4	0.664	
		0.472/0.36		6.73	10.2/1.15	- 49.5	0.670	
	1110	1746.36	976	6.1.3	10.5/1.20	21.3	6.744	
11/20/97	7028	0.490/0.37	8 (7	· · · · · · · · · · · · · · · · · · ·	72 5 /5	7.0		
7-117	2031		8-17	7-08	72.2/8.34	-76.8	0.765	22
	2037	0.514/0.39	8+68	6.97	53.3/6.03	-79 .9	0.802	
	<u> Lust</u>	0529/0.40	8.88	6.92	34-1/3.89	- 83:3	0.817	
11/21/97	1642	- 11 100	- 11		ļ,			
172717	1647	0.561/0.42	5-14	6.77	7-1/0.90	-66.9	0.857	22
-		0.550/0.42	5-36	6-7-8	6-2/0.78	-70.3	0.844	
	1092	0-547/0,41	5 32	6.79	5.9/0.75	5-72.5	0,844	
	1700	c.546/0.41	5.21	6.79	5.6/5.7	-72.4	0.839	
11/22/0	0.00	0 50.7						
11/22/97	1822	0. 581/0.42	7 39	7-21	32-9/4-11	-31.7	0.882	55
	1830	0.59810.39			3 5-1/4-51	-34-9	0.628	
	1836	0.40910.39	5-22		34.6/4-59			
1.1 : : :		/						
11/24/97		0.809/0.62	7.93	.6.53	20:7/2.46	-35.6	1.247	SJ
	1835	0.808/0.62	6.91	6.54	28.0/3,47			->
	1849	0,550/CAZ	6.93	7	7.5/1.53		0.846	
	1854	0,548/0,42 =		6.80	8.3/1.01 -		0,844	

1859 6,550/0,42 6.86/6.80 2 = 2.4/1,03 -59,4 0,846 Sampled for SFL at 1902

Groundwater Monitoring Well MF5E Test Location SSO6

	İ	TDS/SAC Water Level		1 · ·	! 07		Purge Rate	
_		Water Level	ر الارد. مصر		DO (mg/L)	000	Purge Rate	_
Date	Time	(feet bTOC)	Temp. (r)	рН	DO (mg/L)	ORP	(gpm)	Operator
11/25/97	12590	0.598/0.4.	7-91		6.743.4		0.441	<u></u>
,	2304	0.598/0.4.	<u>58.30</u>		120.3	- 65.4		
	2310	10.2690.4	3 8.39	6.79	10.3/1.		70.867	
	2315	0.563/0.43	8-38	6.79	9-871-15	-67-8	0.8657	
11/26/97	1730	0.584/0.44	8.04	6.75	36.2/4.28	51-2	0.896	FA
		0.575/0.44		6.76		, -52.5		
· · · · · · · · · · · · · · · · · · ·	1740	0572/043		6.77				
11/28/97		0590/04	57.SD	6.77	17.5/2.06	5-52-1	0.906	
,	1900		7.99	6.79	15-9/1.88	-54·5	0.894	
11/30/97		0-607/0-46	8:57	677	4.4/051	-61.5	0.933	
	1945	0.603/0.46	8.47	6.78	4.3/0.50	-63.3	0.926	
12/2/97	1827	0.576/0.44	8.15		5.1/0.59	-73.9	0.877	55
, ,,	/833	0.567/0.43	8-35	6.72	5-0/0.60	-76.5	0.875	
		0.564/0.43		6.73	4.9/0.58	-73.1	0,872	
		/			7			
12/13/97	1626	0.876/0.68	6.92	6.51	24.8/3.08	-14.6	4.357	SJ
1 / -		0.815/0.62		6.63	35-6/4-49		1.212	
		0.724/0.55		6.63	20.0/2.51		1.105	
		0.710/0.54		6.69		1	1-091	
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FIGURE 6-9 DATA SHEET 2 - VAPOR MONITORING WELL RECORD WURTSMITH AFB PILOT TESTING

		Vacuum (inches] - 2		
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24 97	1554	-0.03		16,2	3.0	41.1		313	JP
	1659			16.2	3.0	40.7	0.32	313	
	1703			167	3,0	37.4	0.33	313	
	371	Stanon	urs sto	rps at	2130.				-
11/24/92	2221			17.1	3.0	34,3	1.00	3/3	A312
	2224			17.2	2,9	41.0.	0.98	330	
	2227			17.3	2.7	36.4	0.97.	342	
	2230			17.4	2.5	31.5	0.96	346	
11/25/9	7 438			17.7	2-7	0.5	0.56	275	JJ
1 1	1742			18-0	2-6	0-5	0-55		
	1745			18-1	2-6	0-4	0-54		
11/26/97	1140		-	16.4	2.4	0.6	0.47	233	FA
	1145			16.7	2.2	0.5	0.46	210	
11/28/97	1540			16.7	2-0	0.0	00		
	1550	-		17-1	1.8	0.0	0.33	195 187	
11/30/97	1740			16-3	2.0	0.2	0.16	125,7	
	1745			16.5	1.9	0.1	0:16	103.0	
12/2/97	1215			13.9	3-3	0.7	Ø	133	تزر
	1219			14-4	2-9	0.7	C	120.3	
	1250			15.6	5.3	0	0	47,2	
12/4/97	1149			13.4	3.3	0	U	102.7	72
, , , ,	1152			13.6	3-3	0	0	95.6	
	1155			13.6	3-2	0	Ō	93.3	
12/0/01	10 10			10 1	2 (2		6.3	91.3	~~
12/9/97	18 45			12.6	3.8	0.1	0-0	948	FA
	1855			12.7 12.8.	3·8 3·7	0.0	0.0	65.2	
	1022			12.3.	5+	<i>₿</i> ⊕	0.0	48.2	
12/3/97	1254			10.8	5-3	0	0	56.0	Tl
	1300			11.1	5.2	0	0	33.7	-
	1304			11-2	5-1	0	0	29.3	

Vapor Monitoring Weil SSOG-HP2 Test Location SSOGMP2C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
11/11/97	1855			0.0	15.4	toohigh	0.0	79.8	
	1854			0.0	15.2	4	0.0	79.9	
	1857			t.0	15.2	1	6.0	80.7	
	1858								
	1859								
	1900								
11/12/97									<u> </u>
WHAT	1955			1.2	15.6	127.2	0.0		
	1956			1.4	15.4	128.7	0.0		·
	1957		<u> </u>	1.5	15.3	129.6	0.0		
	1958			1.5	15.3	130.3	0.0		
	1959			1.5	15.2	131.8	0.0		
	2000			1.5	15.2	132.7	0.0	205	**
11/13/97	10:24		PUR	SING					
, , ,	10:30			3:3	12.7	129.0		/33	A
11/12/97	421	2.60							
	439	2.61							
	5.00	2.58							
	554	2.52							
	1000 1	1 2.60							
11/14/97	9 20 AM	2.58		-					
					,				
11/15/97	3-25	156		1/1 /1	PURGIA			100	
1110 100	3:30	1.52		144	5.1	15.7		400	
1/17/97	12 201M			15.2	3.5	16.6		997	
11/18/97	1540	1.56		17.3	03.5	18.2		882	· · ·
	1543			17.3	3.5	18.6		899	
	1548				3.5	19.7 20.6		923	
	1559			17.3	3.5	200		738	

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Vapor Monitoring Well SSOG HP 2-C Test Location SSOG

		Vacuum (inches			i				-
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operato
11/19/97	1830			11.7	7.9	80.1	0,00	168.4	JP
	1838	1 00		11,9	7.7	83.A	0,00	180,0	۲۰
	1843	1.24		12.0	17.7	82.3	0,00	185,5	
1171	ļ			!	<u> </u>				i
11/20/9-		1,37			<u> </u>				
	1851			12-1	7.7	- 62-4	0	1249	35
	1854					<u> </u>			
	1854			12-0	7-7	675	0	250	
	1858			12-0	7-7	69-7	C	250	
	1901			12.1	7-7	70.8	0	250	·····
11/21/00	162.0	7 77							
11/21/97	1620	1,77							25
<u> </u>	1630		<u>-</u>	21-1	0	C	()	7.3	
	1633			21.1	6	0	0	5-5	
				21.2	ರಿ	D	C	7.3	
	1637			21.0	0	0	0	7.3	
11/22/97	1619	1.41		,					
/_/	1621			11-9	10.2	 			57
	1624	-		12-4	9-4	33.5	0	494	
	1628			12-8	8-9	46-8	0	502-1	
				- 6	6-9	47.7		>/2	
11/23/97	1412	1.58		16-6	6-9	<u> </u>		298	(7
7	1415			18.2	0.4	30.4	0	2991	55
	1419			19-9	0.3	0	0	309	
1/24/97	1258	-0.23		15-1	5.0	114-6	1-3	179	ST
, , ,	1301			14-4	5 - 5	138.3	0-76	1771	
	1303			14-0	5-8	144-6	0.66	179	
	1306			17-8	6-0	148.3	0-66	181	
						3	~ ~ †		
124/97	1708	-0119		18.0	3.0	>>150	1.1	163	
	1712			7.9	3.2	>>150	1-1	170	72
	1716			17-8	3.3	02175	1.1	170	~ ~
1/24/97/	2234			18.2	2,3	134	1.5	171	ASR
	2237			18.2	2.4	>>	1.5	170	
	2245			18,1	2.4	>>	1.5	172	

11/25/97 1755 4/2 1759 1803 16.7 5.9 16.7 4.9 16.7 4.9 144-5 0-98 255 SJ 136.0 0-88 256 131.2 0.85 255

Vapor Monitoring Well	SS-06	Test Location	HP2-C	
_ apor wromier and				

	:	Vacuum (inches			:		:		_
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4		PID (ppm)	
11/26/97				14.0	4.6	138-0	075	243	FA
	1155			14.0	4.5	132.5	0.62	255	
11/28/97				10.5	5.7	43.2	0.25		
	1610			10.6	5-6	97.5	0.11	100/	
11/30/97	1755			5.7	7.4	95.0	0.0	276	
	1800			5.7	14	97.5	0.0	276	**
12/2/97	1404			20-7	0	0 0 0	0	7	
	1414			4.0	8.8	88.9	0	252	55
	1422			4.0	8.8	90.4	0	256	
	1425			4-1	8-6	88.7	0:	261	
11.00					10	108.7		272	
12/4/97	1159			1.4	10.5		0	277	72
	1202			1.5	10.4			279	
	1205			1-6	10-3	103.7		289	
	1209			1-6	10-3	105.8	U	289	
1 1060	1910			<u> </u>	12.0	02 2	- 0	299	FA
12/9/97	19/10			0.0		93.3	D-0	301	<u> </u>
	1950			0.0	12.0	93.6 93.8	0.0 0.0	301	
	1 1 20			0.0	12.0	730	00	٥٠,	
17/13/97	1427			0	13-2	95.8	0	532	72
17/17	1430			0	13.2	97.7	0	522	
	1434			0	13-2	99-1	0	519	
	1437			0	13.3	100.5	0	519	
						·		- 1	
		 							
<u> </u>			<u>'</u>						

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Vapor Monitoring Well _____ So 6 HP3 Test Location SSOG-MBA

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Halison	PID (ppm)	0
111197	1901			16.4	2.0	8.2	<i>№</i> 11enum	12/	Operator
4:1				16.4	2.0	6.7		762	
	1902			14.4		6.2		753	
	1904			14.2	1.9	5.8	 	743	
	1905			16.6	70 1.9 14	4.1	0.0	145	
1111291	:								<u> </u>
1 . HE . I . I	2049			20.4	0.0	0.4			
	2050			20.4	00	0.4			
	2049 2050 2051			20.4	0.0	0.4			
	2052			20.5				395	
11/13/97									
-10-40	10:40			PURGING					
270 10	10:45			19.9	0-2	2.7	_	818	F4
11/13/97									
	422	1.02							
·.	440	1.01					!		
	504	1.01				<u> </u>			
	5.04	7.07							
	555	0.96							
Į									•
	1000	101							
1/1/2/27	1000 1	1 1:00							
11/4/97	4000 At	1 700							
11/15/97	2.28 SI	0.62		PUA	6126				
	3.4351			194	0.0	0.0		703	
11/17/97	1230 PM	059		18.3	0.0	0-/		208.0	
11/18/97		0.90		21.2	0.0	0.0		51.6	
1.14.50	14:05			21.2	0.0	0.0		51.6	
11/19/97	1507			20.1	0	D		12-2	
	1511			20.1	<i>O</i>	0.0	0	13.5-1	

1514 0 83



16.0 16.0

Vapor Monitoring Well SSOG MP3 Test Location SSOG MP3 A

Date	Time	Vacuum (inches H20)	T (E)	% O2	%CO2	Ø CIIA	or W.E.	DID ()	:
11/20/97		0.70	Temp. (F)	% O2	%CU2	%CH4	% Hellum	PID (ppm)	Operator ・ メチ
1 1 1 1 1	1442			20.2	0.0	0-0	O	28.3	7
	1445			22.2	U	0	0	26.8	
	1448			202	0	1 0	1 0	28.3	
	!								
11/21/97	1221	0.75							シナ
	1224			19-8	U	0	O	34.0	
	1229			19.5	0	٥	0	31.3	
	1233			19 8	C	0	O	31.3	
	1235			19-7	\mathcal{E}	0	0	*33.1	
						1			
4/22/97	-1249	0.81							
	1252			19.9	0-3	0	0	21.7	57
	1253			19.9	0-3	0	0	20.2	
	1256			19-9	0.3	.0	0	17-2	
	1 = 40 1	a 0.0		2.0	_		~		
11/27/97	_1701	0.98		2001	0.3	0	0	176.2	SJ
	1707			20-1			0	184.6	
	1 + 11			20-1	0.3	.0		104.4	
11/24/97	1309	-0-29		19-1	0-1	33-4	0-72	452	55
11/24/97	1321			19-1	0.2	42.0	,	481	
	1327			19.1	0.2	39-4	0-38	493	
	1330			19-1	0-2	30-2	0.35	491	*
				(
11/24/97	1723	-0,24		19-8	0-1	44.1	1.9	425	77
	1728			19-8	0-1	30.9	1-9	446	
	1733			19-8	0.1	28.0	1-9	449	
	1737			19-8	0-1	26-6	1-9	449	· · · · · · · · · · · · · · · · · · ·
					2				
11/24/97	22:47			19.5	0,2	103,1	1,8	314	JP
	22,50			19.5	0,2	54, 6	1,9	366	
	22:53			19.5	0,2	45,4	1,9	373	
11/25/97	1812			20.8	0.3	20-4	0-74	545	55
	1817			20.8	0-3	19-6	0-75	528	
	1820			20-8	0-3	19-4	0.75	218	



Vapor Monitoring Well SS-06

Test Location 3 A

	•	Vacuum (inches				:		:	
Date	Time	H20)	Temp. (F)	% O2	%CO2	%СН4		PID (ppm)	Operator
11/26/77				18.9	02	31.7	0 66	475	FA
/ /22	1210			19.0	02	2-8.5	0-67		
11/28/97	1705		-	18.6	04	3:3	0 33	1673 *	
	1.715			17.8	0.7	4.3		1860	
11/30/97				18-5	0.4	2-2	0.49		
	18/S			18-6	0.4	1.6	0.47	315	
12/2/97	1429			18.5	0.4	1.7	0.75		SJ
, ,	1433			18.5	0.4	1.2	0.75		_
	1436			18-5	0.4	0.7	0.78	253	
	1439			18.5	0.4	0.6	0.79	231	
12/4/97	1240			16.4	1.2	3.2	0	368	35
1 1 1 1 1	1243			16.4	1-2	3-2	0	368	**
	1248			16-3	1.2	3:2	0	371	
12/9/97	1704			16.9	0.9	0:1	055	66.1	A32
	1708			16.9	ا ف ر	0.1	0.05	74.4	
	1712			16.9	1.0	0.1	0.06	78.7	
	1717			16.8	1.0	0.1	0.00	84.5	
12/13/97				16.7	1.6	0.3	0	155.1	22
	1138			16.7	1.6	0.3	0	159-2	
	1145			16.5	1-6	0-3	D	164-3	
	1148			16.5	1-6	0.3	0	166.5	
								·	
		-							
į									

Vapor Monitoring Well SSOLO MP3 Test Location SSOLO-MP3B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2_	%СН4		PID (ppm)	Operator
11/11/97	1908		~~	194	107	7.3	00	-85.3	~~
<u></u>	1909	~~	~~				~~~	~~	~~
	1910			1.2	14.0	official	0-0	85.5	
	1911			1.1	13.8		0.0	86.1	
-	1912			1.3	13.6	V	0.0	Bu.7	
i									
: :									
111247								!	
			İ					<u> </u>	
	2043			20.7	0.0	0.7		<u>'</u>	
	2044			80.2	0.0	0.4	=	512	
!	2045		!	20.2	0.0	0.4		سرار	
	20.46								
11/13/97	10 1 (14)			PUR61	16				
11/13/9+	10:40		-	13.6	2.7	5.6	_	208	FA
	10.70					-			
11/12/97									
113177	425	189							
								<u> </u>	
	440 504	189				<u> </u>			
	504	1.87				<u> </u>			
1	554	1.85							
		1.00							
	1002.	1.38							
		1 - /		-		-	-		
9/14/97	1000 AM	1.86				 	 		
11-10	920 AM	1:15		PURGIA	06				
11/15/97	- 530 PH	1:15		19.3	0.0	00	 	870	
110100	535 1121614	115	 	18.8	0.0	20		96.3	
11/17/97	1245 PM			21.2	0.00	0.00		19.2	
11/18/92	1525	1.40		21.2	0.00	0.00		20.2	
	1528			21. 2	0,00	0,00		21.2	
11/19/97	1531 1631			20 · U	0.0	0.0		10.2	
<u>'' </u>	1634	-		20-0	0.0	0.0		9.6	
	1639	0.85		20.0	V -0.	0 0 · O		9-6	

Vapor Monitoring Well SSOE MP3 Test Location SSOE-MP3B

		Vacuum (inches	:	:	:		:	:	
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/20/97		0.94	<u>.</u>				<u> </u>		
	1630		7	20.5	0	0	! 0	10.4	57
	1634			20.4	U	0	0	10.4	
	1637			20.4	0	0	0	10.4	
			<u>.</u>						
11/21/97	- 1414	5.86		20.9	C	0.4	O	39.6	SJ
, ,	1432			21.0	Ü	U	0	36.8	
	1435			21.0	0	0	0	34.0	
	1438		·	21.0	0	C	<u>ن</u>	22-1	
11/2-497	1414	1-12				-		İ	
	1416			1-7-5	1 7.73	()	1 3	217	5.7
	1424			19.7	0.3	0	٥	15.7	
	1429		· · · · · · · · · · · · · · · · · · ·	19-7	0.3	0	b	14-2	
				- L.L.				19-6	
11/23/97	1818	0-96					<u>'</u>		35
1 1	1821			20.4	0.3	0	0	199	
	1824			20.4	0.3	0	0	201	
	1827			20.4	0.2	0	0	197	
11/24/97	1333	-0-50							
1-11-	1337			19.3	0.0	24.6	0.18	491	I.P
	1341			19.2	0,0	261	1 - 1	493	<i>→</i> (1,
	1344			19.3	0,0	26.1	0.18		
	12			1710	0,0	76.1	0,17	493	
11/24/97	1741	-0. 67							
7 1	1744			19.9	0	25.2	4.9	449	TZ
	1753			19-9	0	25-7		453	27
	1759			19-9	0	25-9	2-0	453	
				- 1 - 7 		<u>-) </u>		1351	
11/24/97	27.55			19.6	0.0	37.2	1,9	401	JP
	2259			19,5	0.1	40,3	1, 9 1, 9	376	
	2302			19.5	0.1	41.5	1,9	370	
11/25/97	1826			19.7	0-8	62.9	1-3	402	35
	1830			19-8	0-7	60-3	1-2	407	
	1835			19-9	0.6	56-0	1-1	407	
					<u>"</u>			1	

Vapor Monitoring Well SS-06 Test Location MP-3B

		Vacuum (inches							
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4		PID (ppm)	
11/26/97	12 20 :		<u> </u>	17.8	08	69.4	1.4	364	FA
	1225			17.8	0.8	68-7	13	364	
11/28/97	1730 1740			18.0	0.7	3-6 3-6 11-6	0.64	1773	<u>~</u>
			<u> </u>	18-0	0.7	3.6	0.62	1808	
11/30/94	11825			15.7	1.8	11.6	0-51	454	
7-7-	1830	-		16.4	1.6	9.4	0-49	459	
142197	1443			15.1	1-4	8.3	७.५४	429	SJ
1 1 1	1446			15.3	1-4	6.7	0-48	413	
	1449			15-3	1.4	6.5	0-47	407	
					•				
12/4/97	1257			10.7	3.9	24-7	0.10	387	LZ
'-/-//-	1308			10.5	3-9	24-2	0.10	387 390	
	1311			10.5	3-9	23-8	0.9	393	
	1318			10.6	3-9	22.1	0.11	404	
								•	
12/9/97	1830			9.0	5-2	9.0	0.0	34-1	FA
	1835			10.0	4.7	8.7	0.0	348	
	1840			100	47	9.9	0-0	360	
12/13/97	-1310			3.2	7.9	17.9	0	681	SJ
1	1313			3.5	7.8	18.2	0	710	
	1316			3-5	7.9	21-6	0	735	
	1321			4.0	7-6	20-5	0	747	
"									
				·					
									
	1		<u> </u>			<u>'</u>	<u> </u>	 	

Vapor Monitoring Well SSO6-MP3 Test Location SSO6 MP3C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Walium		,
11/11/97	1915			0.0	15.1	of sae	% Helium	49.9) Operato
1	1914			0.0	15.1	- Fr xac	0.0	70.1	-
	1917	1		0.0	12.1	<u> </u>	0.0	70.1	·
	1918					 			<u>:</u>
	1919				 			-	
	1920							,	
N12497									
**************************************	2024			20.0	.2	.9	^ ^		1
	2027			20.1	1	1.4	0.0		
	2022			200	.2	1.4			
	2021			a v.0	٠, ك	.4		41.1	
	2027 2028 2029 2040			ao · o	· A	• •		461	
11/13/97	10-48			PURC	DING-	56.6			<u> </u>
	10:5 g			6.1	7.7	55-9		91	FA
					· · · · · · · · · · · · · · · · · · ·				,,,,
11/13/97									
, ,	425	2.71							
	440	2.72							
	505	2.70						****	
	554	2.67							
	100584	2 70							
ulido-									
11/14/97	1000 TM	2.69			···				
11/15/97	2. CUPM	1.66		PUR	61106				
	520			193	D-C)	0.0		600	
11/17/97	100 PM	1.68		18.8	0.0	0.0		67.9	
11/18/97	1604	1.80		21.1	0.00	0 0.7			KPrevious Rewing you
	1607			21.1	0.00	0.4		282	pilading your
	1613			21-1	0.00	0.2		196	
	1619			21.0	8.00	0.1		145	

1628

XXE

(freview 1e. ressus)

0.00

21.0 0.00

113.4

1636

21.0 0.00 0.00

38.0

Vapor Monitoring Well 5506 Test Location MP3C

Date	T:	Vacuum (inches	. Towns (E)	% O2	%CO2	7.CUA	% Halium	PID (ppm)	Operator
Date	Time	H20)	Temp. (F)		1	1	76 Hendin		JP JP
11/19/07				20,3	0.50	0.00 >150	<u> </u>	158	- JF
	1854	0.89		19,0	19	7150	<u> </u>	160	
	1757	V181		1 /0 1	k-7	7.20		100	
11/22/97	1939	1.00	:						
11/20/11	1941	•		20.0	0.2	69.6	1.3	332	55
	1944			20-0			1-3		
	1947			20-0	0-2	70.5	1-2_	334 338	
	1950			20-0	0.2	71-4	1-2_	338	
11/21/97	1640	1,40	-						
-+ (1643			21.0	0	0	0	7.3	57
	1648			20.9	0	O	0	6.4	
	1651			21.0	0	U	<i>O</i>	7.4	
	1655			20.9	O	.0	D	8.2	
									,
11/22/97	1634	1-37		20-2	0-3	19-2	1-5	905	らナ
	1637			20-2	0-3	14-1	1.5	913	
	1640			20-0	0-3	13-2	1-5	902	
							,		
11/23/97	1420	1.26							
1 / '	1432			19-8	0.3	0	0.85	634	シナ
	1435			19-9	0.3	0	0.26	640	
	1438			19-9	0.3	0	0	655	
1/24/97	1346	-0.37							- kelun
1-64191	1349	1001		19.5	0,0	25.6	0.38	514	prior to
	1347 1400			19,7	0,0	25.0		517	
	1405			19.7	0,0	24,3	1.5	517	
	1408			19.7	0,0	24, 2	1.6	517	
	1700			<u>' 4 </u>	-/-	•			<u></u>
11/24/97	1812	-0.72		19-9	0	20-7	2-0	478	
1-1-	1827			19-8	0	21-0	2.0	486	
	1833			19-8	0	21-9	2- C	486 486 486	
	1836			19.7	0	21-6	2-1	486	

X&=

FIGURE 6-9 DATA SHEET 2 - VAPOR MONITORING WELL RECORD WURTSMITH AFB PILOT TESTING

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24/71	2304			19.5	0,0	30,2	2,5	421	
	2307			19,5	0,0	35.4	20		JP
	2311			19,1	0.0	377	1,7	377	
	2313			19.4	0.0	36.0	1,9	397	<u> </u>
·	277			,,,,	010	7010	"/	397	
1/25/97	1847			19.9	0.4	60.3.	1.6	401	5.5
<i>/- </i>	1852			19.9	8.4-	62.1.		387	Azr
	1857			19.9	0.4	65.0		382	Arn
	1907			19-9	0-4	64-3	1.6	377	SJ.
								317	70
11/26/97	1345			2~.3	U	0.4		453	-5J
7 / 1	1348			20.3	ن	0-3	0	453	36
	1752			2-0-3	0	0.3	-0	453	
1/26/97	1354			18.5	0.4	65.7	1-8	345	55
	1357			18-4	0.4	69.7	1-8	348	
	1400			18-4	0.4	72-4	1-7	346	
11/28/97	1750 1800	!		16-0	1.2	62:5	1.2		FA
/ , ,				16-D 15.7	1.3	65.4	1.0	1192	
11/30/97	1850			13:6	2.2	73.9	0.87	327	
	18 <i>S</i> S			13.6	2.2	72.2	0-86	335	
12/2/97	1500			12.4	3.0	65.2	0.40		
1-1-1-	1503			12-4	3-0	69-3		292	45
	1507			12.4	2.9	69-1	0.40	291	
	7			(2)	2-9	07-1	0.40	293	
2/4/97	1325			10.3	4.0	55.8	0.13	7/2	SJ
1111	1328	-		9-6	4-2	72-1		3/3	2 4
	1331			9-5	4-3	92-5	0.12	298	
					9-7	123	0.10	294	
2/9/97	1930			2.6	7.4	101.7	0.15	28%	<u> </u>
' ' ' ' 	1935			2.8	7-3	97.8	0.2.2		FA
	19 40			2.9	7·3	949	0.0	<i>296</i> <i>301</i>	<u>Beial</u>
	1 10			21	7 2	17 /		-201	Mue
2/13/97	1443			0.4	10-1	107.7	557	557	TZ
<u> </u>	1446			0.5	10.1	106.3	0	559	
	1449			0.6	10.0	102.1	0	559	
	1453			0.7	10.0	98.1	0	578	

Vapor Monitoring Well SSO6-MP4 Test Location SSO6-MP4A

		Vacuum (inches							
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4		PID (ppm)	Operator.
11/11/97	1919			128	5.4	15.8	0.0	1002	· · · · · · ·
	1920			12.8	5.4 5.4	14-8	0.0	497	
	1921		1	128	5.4	14.1	0.0	971	· · · · · · · · · · · · · · · · · · ·
	1922					 			
\sim								!	
11/12/97	0115			201		110			
	2115 2116			20.1	0.0	4.0			
	2110			20.1	0.0	4.0	-	395	
	2117			20.1	0.0	4.0		242	· · · · · · · · · · · · · · · · · · ·
	Ø118	<u>~~</u>							
					>		-	-	
		· · · · · · · · · · · · · · · · · · ·	-	;				<u>:</u>	
11/10/07	44:03			PURGO	<i>(</i>			!	
11/13/97	11:02	 		19.4	0-4	1.2	 	576	FA
	17.04			177	0-4	12	<u> </u>	376	771
1010			ļ	1					
11/13/97	425	a 21						1	
	425	031						<u> </u>	
	440	0.33	 					<u> </u>	
	506	0.35					 	•	
	555 555	0.31							
	292	0 31				 	<u> </u>		
	1005PM	0.31						<u> </u>	
	100 -/ 1	0 71				 			
11/1/67	toon and	0.30				 			
141 214 7	920		1					<u>:</u>	
11/15/97		0.21	 	<u> </u>	RIRGIN	Ł.		† · · · · · · · · · · · · · · · · · · ·	
113/19	0.0001		1	19-3	00	0.0		54.4	
1/15/91	S30 Ply			<u> </u>					<u>. </u>
:/15/97 11/17/97	1:10PM								
11/11/11	1:15 FM	<i>\$</i>		19.0	0.0	5.0		399	
	1:19+4	•		19.5	5, 5	0.0		37.0	
11/18/97		0.22		21.4	0.00	0.00		33. 4	
1113174	2.20		 	21.2	0.00	0.00		29.3	
	2:27		1	21.2	0.00	0.00		24.2	
-11/0/-	1 4 41		<u> </u>		75			<u> </u>	·

-11/18/97

Vapor Monitoring Well 55 CE MP4 Test Location 55 CE MP4

		Vacuum (inches				:	;		
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	1518		!	1 20 i	0	0		15-4	
	1522			20-1	0	0		13.5	
	1525			201	O	Ü		12.2	
	1528		!	20.1	, o	U		10.9	
	1531	0.15		20-1	0	0		10.9	
2 0									
11/22/97	1508	0.21		20					
	1513			20.3	0	0	0	2 5 .3	
	1519			20-3	O	0	0	22.3	
	1523			203	0	0	0	20· 8	
								ا ا	
11/21/47	1246	0:11							
	1242			19.5	0	U	()	23-9	55
	1245			19.4	U	Ĺ.	6	21-1	
	1250			19.4	0		Ċ	14-7	
	1253			19.4	0	C	5	1.3-8	
								13 6	
11/22/9=	2 1304	0.22							55
	1306			20-1	0-2	Ũ	٥	30.7	
	1309			20.1	0-2	0	0	18.7	
	1312			20.2	0.2	0	0	20.1	
11/27/97	1715	0.45							SJ
	17-16		i	19-9	0.3	O	0	191.7	
	1719			19-9	0.3	0	0	195-2	
	17-22			19-9	0:3	0	0	194-1	
								1 1 1	
11/24/97	1413	-0.07		19.1	0.5	45.0	0.82	342	TD
	1417			19.1	0.5	50,5	0.82	1	JP
	1421			18,9	0.5	49.6	0.81	<i>336 334</i>	
	1428			18.9	0.5				
				10:1	<i>0, 7</i>	<u>ط ، - در</u>	0.85	331	
11/24/97	1841	-0-32	-						
/ ///	1853	-0.07		19.3	0,8	52.7		331	~o
	1980	0.07		19,3	0.8	54.4			JP
	1746			.,,3	U, X	<i>2</i> 7 , 7	1.5	330	
-									
			1						

FIGURE 6-9 DATA SHEET 2 - VAPOR MONITORING WELL RECORD WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well	Test Location	5506
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		Vacuum							
		(inches							:
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4			Operator
11/24/97	2315	····		13.9	0,5	50,0	1,0	324	JP
	2318			13.7	0,5	54,9	0.93	310	
	2321		<u> </u>	18.9	0.5	57.2	0,97	309	
							~ , ~	11	
11/25/9-	2129 2134			19-7	074	6-5	0-48		55
/	2134			19-7	0-4	5-5.	9 -48		
-	2138			19-9	0.3	١٠ - ك	0-52	650	
				6 -					. 7
11/2.6/97	1413			19.7	C	1.8	0-37		72
	1416			19-8	0	1-4	0.36	318	
	1420			19-8	O	1 · C	0.33	301	
11/28/97	1815			19.6	0.0	15	0-19	40	
	1815 1820 1905			19.6	0.0	04	0.27		
11/30/97	1905			19-6	0./	0.8	0.20	30	
	1910			198	0.0	D.8	0.20	-300 3	D
				10 0	- 14	1. /	0.22	1415	
12/2/97	1511		<u> </u>	18.9	0.4	4.4	0.23		75
	1515		<u> </u>	18.9	0.3	1.0	0.17		
	1518		<u>;</u>	19-0	0.3	0.7	0.70	230	
	1520			19-1	0.3	0.6	0.20	197	
11.10				17.0		11.	0.2	277	55
12/4/77	1336		<u> </u>	17.9	0.7	1.4		275	30
	1339		<u> </u>	18.1	0.6	0.6	0.25	211	
	1342		ļ	18.2			0.10	173	
	1345			10.7	0.5	0.4	0-10	1 (17	
1010100	190 -			170	0.7	5.0	0.09	700	TIR
12/9/97	1720		-	17,9		 		32.0	フレス
	1728			18.7	<i>v</i> ⋅ 7	00	0.01	20.0	
	1732			15.2	0:6	0:0	1	19.3	
<u> </u>	1735			18.2.	06	0.0	0.01	1//3	
12/12 Kon	1202		-	17.6	1-D	0	0-12	33-2	2.5
12/13/17	1210		 	17.5		0	0.12		<u> </u>
	 		 	17-5	1-0	0	0.11	30.7	
	1213			17-5	1-0	0	0.11	29.3	
	1217			14-7	 			1 -3	
	<u> </u>	<u> </u>		<u>!</u>	1	<u> </u>	<u></u>	<u> </u>	

Vapor Monitoring Well 5506- MP4 Test Location 5506- MP4B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
1/1/97	1923	1		2.9	11.9	38.9	0.0	594	Operator
1).	1924			3.0	11.1	402	0.0	592	
	1925	I .		3.2	11.5	41.2	0.0	593	
4	1924			3.5	11.3	41.4	00	995	
						11171			
									- <u> </u>
412/97									
	2109			20.0	0.0	0.8			
	2110			20.0	0.0	0.7			
	2111			20.0	0.0	0.7		619	
	2112					<u> </u>		UP 1-1	·
(1/10/00									
11/13/97	11:02			PURGN					
	1/-10			12.6	4.6	0.9		415	FA
11/13/97	4 25	ව නි							
	440 1	0.81	!						
	506	0.84			· · · · · · · · · · · · · · · · · · ·				
	555	0.77							
	1005 AM	0.76							
11/14/97	1000 AT	€.79							
1	$\mathbf{q} \boldsymbol{\varkappa} $)							
11/15/97	540 PM	U 50		CURGING.	,				
/	545	a Fa		19.3	00	C C		500	
11/17/97	540 PV 545 1:28 PM	0,9%			20	0.0			
	1:24 PM		/	19.0 3.L.	at	20		36.3	
, ,	150.PM			190	0.0	00		26.2	
		0.49		21.2	0.00	0.00		14-1	
	15 19			21.2	0.00	0,00		13.1	
11/19/97	1613			20-1	6.0	0-0		11-5	
′	1624		į	20.1	0.0	0 - ن		न्ह- उ	

8.3

Vapor Monitoring Well _____ Test Location _____ SSC6 - MP 4B

		Vacuum (inches				~ ~~	~	PMD ()	
Date	Time	 	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
11/20/97	111.6	0.37		20-4	U	1 0	0	8.9	57
	1649	!		20.4	0	0	0	9.7	
	1655			20.4	0	0		9.7	
	1658	 		20.9				; <u>' </u>	
11/21/92	1443	0.43							
17271	1446	0 1 5		21-1	0	0	0	23.9	55
	1450			21-0	O	0	0	15-6	
	1459			21-6	C	じ	C	9-2	***************************************
	1503			21-0	0	C)	Ü	8-2	
		;							
1422197	- 1433	0.46							
 	1436			19.9	0, 2	U	0	12-7	SJ
	1441			19-9	٥. ک	O	U	14.2	
	1443			19.9	0-2	.0	0	14.8	
11/23/9	17 1829	0.41							
/ L	1831			20.5		0	0	179	SJ
	1834			20.5		0	0	183	
	1837			20.5	0.2	0	0	180	
									· · · · ·
11/24/97		-0.16						_	
	434			19.3	0.7	94.5	1.1	288	JP
	1437			19.3	0.7	101.9	1. 2	288	
	1440			19.3	0,7	103.7	1. Z	236	
	1443			19,3	0.7	124.2	1,2	281	
1		A ! =		10 -				200	
11/24/97		-0,13		19.5	0.5	79,2	1.8	286	JP
	1414			19,5	0.5	87.6	1.8	281	
	1920			195	0.5	90.6	1,9	279	
1 1	1000			10 1	7) 2	110	1.8	287	TB
11/21/97				19,1	0,8	64.2	1.8		JP
	7326			19.0	0,8	75,9		282 282	
11/25/97	2379			17.5	2.2	22.3	1.7 0 ~ 89	650	55
11/25/77	2146			177		16-3		630	""
11/27/9	2149			17.6		13.6			
	-: 77			t T > 0	<u></u>		0 /	000	

11/26/97 1422 1425 1428

17.0 1.8 2.7 0.54 349 17.0 1.7 2.4 0.53 338 17.1 1.6 2-4 0.59 335

Vapor Monitoring Well SSO6 Test Location Mp 4B

	:	Vacuum (inches			!	!		:	
Date	Time	H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
11/28/97	1:830			18.0	/-/	0.4	0.29	100.0	FA
	1835			18.0	1.0	0.3	0.29	990	
11/30/97	1930			17-6	1-3	0.3	0.23	30-0	
	1935			17.7	1.3	0-3	0.24	30·D	
10 / 10									-
12/2/97	1541	·		16-3	2-0	0.3	0.12	94.1	
	1544			16-4	2-0	0.7	0.12	90.9	
	1547			16-4	2-0	0.2	0111	89.8	
12/4/97	1349			13-0	3.9	0.4	0	168	55
, ,	1353			13.6	3-5	0-4	0	180	
	1356			13.8	3-4	0.4	D	173	
12/9/97	1815			13.4	3.3	00	0.0	30.7	FΑ
	1820			13.5	3.3	0 · 0	0.0	33.2	
	1825			13:4	3.4	00	00	431	
								!	
12/13/97				12-1	4-4	0-4	0	128.7	てと
,	1331			12.2	4.3	0.3	0	127.2	
	1334			12-4	4-1	0-2	0	127.5	
	1337			12-6	4-0	0.2	0	128.3	
					·				
				-					
<u> </u>									
		<u> </u>							
			-						
			<u></u>	B A		<u> </u>			



Vapor Monitoring Well SSOG-MP4 Test Location SSOG-MP4C

Date	Time	Vacuum (inches H20)	Temp. (F)	. % O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
। ।॥वा	1928			: 0.0	144	opposite	0.0	66.3	
!	1929		;	0.0	14.6		0.0	44.9	
•	1930			0.0	14.4	V	0.0	66.7	· · · · · · · · · · · · · · · · · · ·
	1929 1930 1931								· · · · · · · · · · · · · · · · · · ·
					~				
141497		-							
	2102			16.6	31	2.1		-	
	3102 2102			14.4	3.1	1.4			
	2104			- 16.6	3.2	1.2			
	2105			16.6	3.2	1.0		592	
11/13/97	11-10			pur60	NG-				
11114	11-15			4.5	10.2	68-0		77	FA
1/12/97	4.25	i:54							
	4:40	1.56							
	506	1.58							
	356	1.51							
	10 0681	1 1.52	-						
11/14/97	1000 Ar	1.56							
· · · · · · · · · · · · · · · · · · ·	970								
11/15/97	535 PM	0.96		10.3	DR6 M			/ = =	
	540			19.2	O-1	υO		60.2	
11/17/97	1:2044	0.96			· .			orten :	
	1,24+4			18.6	0.4	0,0		83.0	
	1:28AM			186	0.4	0,0		7.8.7	
11/18/97	1649	0.90		20.9	0.4	0.1		103.2	
Mitter 14	1453	<u> </u>		20.9	04	0.1		100.2	
	1658			20.9	04	0./		100.2	
	1470								

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Vapor Monitoring Well 5506 _____ Test Location _____ HP4C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	, , , , , , , , , , , , , , , , , , ,	<i>m</i> CVV		1	_
11/19/97	•	1120)	remp. (r)		%CO2			PID (ppm)	
111917	1804	<u>: </u>	1 2	15,8	6.7	>150	2.9	82,9	JP_
	1	0.51	<u> </u>	15.6	6,9	>150	2.5	77.8	
	1801	0,01		15.6	6.9	7150	2.5	75.2	· · · · · · · · · · · · · · · · · · ·
11/20/97	2003	0.62	<u> </u>				1	<u> </u>	,
- <i> </i>	2006	<u> </u>		18.3	1.9	30.1	0.47	2.07.4	SJ
	2009			18.3	1-9	30.1	0.49		
	2012			18-2-	2-0	30-5	 	189.5	
				1000		<u> </u>	0.77	10713	!
11/21/97	1659	0.97							ZZ
	1405		:	21-0	0	0		3.6	77
	1728			21.0	C	0		2-7	
	1711			721-0	0	0		3.6	
								7.6	
11/22/97	1700	0.80				<u>.</u>			·
	1703			18.2_	2-2_	15-2	0.27	318	55
	1706			18-2	2.2	14-0	0.26		
	1709			18-2	2-7_	13-1	0.23	318	
11/2-3/97	1446	0.61							
7 /	1453			20.2	0.2	1 0	0	1981	SJ
	1459			20.4	0-3	0	0	185	
	1502			20.5	0.3	0	0	171	
	1505			20.6	0.2	0	0	574	
	1506			20-6	٥·2	٥	0.07	296	
11/24/97	1446	-0.41							
	1451			19,4	0.5	102,7	1.4	294	TP
	1455			19,4	0.5	106.5	1.5	293	·
	1458				0.5	108,5	1.5	294	
	1501				0.5	110.7	<i>i.</i> 5	293	
11/24/97	1923	-0,39		19.5	0.5	89.4	2.0	226	JP.
	1927			19,5	0,5	89.2	20	289	- 1
	1930			19.5	0.5	38.7	2.0	289	
11/24/97	233 3				···		2,0	291	JA
	2336						1.9	237	

2338

18-3 1-9 132-10 1-5 394 ST 18-3 1-9 137-1 1-5 390 18-3 1-8 136.3 1-4 391

Vapor Monitoring Well	MF40	Test Location	5506
			

	i	Vacuum (inches				÷.			
Date	Time	H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
11/26/97	1434			17-0	1.8	107-5	1.4	2-50	TL
, ,	1438			17.0	1.7	124-3	1.3	5-2-5	
	1443			16-9	1-7	124.2		263	
,	1446			16.9	1.7	122.3	1.2	269	
11/28/97	1845	-	_	13.5	3.3	69.0	0.60	420	FA
,	1855			13.5	3.3	68.0	0.5%	450	
11/30/97	1940			10-4	5./	79.1	0.32	178	
7-7	1945			105	5.1	79.6	0.29		
					-				
12/2/97	1552			6.1	7.1	80.5	0.05		TZ
	1555			6-1	7-1	97.2	0	179.4	
	1228			6.1	7.0	100.1	0	179.7	
12/4/92	1359			2-9	9-1	118.2	0	187	55
, , , , ,	1401			2.9	9.1	125-5	0	192	
	1403			2-9	9-1	124.7	0	194	
	1405			2-9	9-0	124.1	0	192	
12/9/93	7 1915			0-3	11.5	112.2	0.0	178	FA
	1920 1925			0.5	<i>i </i> ·3	110-3	0.0	133 188	
	1925			0.7	11.2	107.9	00	188	
				j					
12/13/97	1518			0.4	12-9	111.3	0	291	27
	1522			0.6	12.7	109-9	0	300	
	1525			0-7	12-6	108-1	D	307	
	1532			1-1	12-4	100.5	0	324	
								•	
				-					
					-				
			<u> </u>			<u></u>			

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SSOU -Vapor Monitoring Well MP5 Test Location SSOG-MP5A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	g CHA	, M. IV.		
11/11/97		1220)	remp. (1)	12.2	5.3	28.0	Ø ·O	PID (ppm)	Operator
1	1933			12.3	5.3	32.1	0.0	749	
	1934			12.3	5.2	20.2	0.0	785	
	1935			12.4	5.2	187	0.0	786	
V	1936			12.5	5.1	17.0	0.0	192	
		-			3.7	11.0		172	
11/12/97	1	:				+			
1.2.									
	2134			20.0	0.0	0.5			
	8137				(O. D	0.4			
	2138	[20.0		0.3		i	
	2139			20.0		0.3		336	
						0.5		270	
11/13/99	11:20			PURGA	NG-				
	11.25			16.5	2.2	1.6		585	FA
						1 7 -		-005	
— j								 1	
11/13/97			1						·
	4:30	0 06							
				1					
	441	0.08		ļ					
	5 07	0.10							
	556	009							
	1000	0 2/1		\longrightarrow					
	1008	0.04							
11/1/01	10	,							
11/1497	1005/1	0.10					1		
Con To	11/15/97	010							
550	11/13/97	0.05					<u> </u>		
557	7			195	00	00		415	
11/17/97	7:00 PM	0 05		19.0	00	00		21.2	
11/18/97	1432	0,14		21.2	0.00	0.00		22.2	
	1435			21.2	0.00	0.00		21.2	
1111910-	1445	0.14		21.2	0.02	0.00		15.1	
11/19/97	15 41	(2 . 5 2)		20.1	0-0	0-0		9.6	
	1741	0.03		201	00	0- U		9.6	

Vapor Monitoring Well 5506 MP5 Test Location 5506 MP5A

		Vacuum (inches		:	1			:	
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/20197	1527	0.03					<u> </u>	:	
	1529			2013	0	0	0	18.9	55
	1535			2.0.3	ن ا	U	0	16.8	
	1539			203	0	ن	0	18.6	
	1545			20.3	0	0	0	15.6	
11/21/97	1255	0.02						,	
	1256			19-4	0	C)	0	14-7	ンジ
	1302			19-4	Ü	C	0	13∙ ন	
	1305			19.4	0	O	0	15-6	
	1310			19.6	(2)	0	0	18:4	
11/22/97	1320	0.04	-		4				
	1322			20.1	0.2-	0	0	2-0.2_	SJ
	132.5			20.1	0.2	. 0	D	15.7	
	1329			20.1	02	O	0	14.3	
. /				0 0					(T
11/23/9	7 1723	ひ・25	· · · · · · · · · · · · · · · · · · ·	4.9	12 5		1 12	191. (55
, ,	17-25			19.9		0	0	184.6	
	1730			19-8		i	0	189.2	
	173 3			19-8	0-3	0	0	192.7	
11/24/97	1507	-0,32		17.0	1.7	59.0	a:47	292	JP
,	1510			17.0	18	49,0	0.49	286	· · · · · · · · · · · · · · · · · · ·
	1513			17.1	1.8	44,5	\$0.50	276	
	1516			17.1	1.8	43.0	0.52	272	
11/24/97	1933	-0,52		17.4	2.3	100,2	0,83	231	JP.
1221	1941			17,4	2.3	75,0	0,84	245	
	1943			17,4	2.3	70-1	0,85	246	
11/24/97	2340			•			0.27	224	JP.
11/21/21	2343						0.25	228	
	2345						0.25	229	
11/25/97				19-1	1-2	7.8	0.04	726	SJ
 	pall			19.2	1.0	3.6	0.06	661	
	2016			19-4		2.4	0.04	613	
!								***	

11/26/97 1453 1456

20.1 0.1 3.3 0.05 383 SJ 20.2 0.1 1.5 0.07 325 20.2 0.1 1.0 0.09 289

Vapor Monitoring Well SSO6 Test Location MP S-A

		Vacuum (inches			4 4 5 5	# CTLA	or Haliana	PIT) (nom)	Operator
Date :	Time	H20)	Temp. (F)	% O2	%CO2	%CH4		PID (ppm) 44.0	A
11/28/97				20-0	0.0	2.7 2.6	02/1	43.4	
1. /2 /2 3	1905					1.2			
11/30/97				20.1	0.0		000		· · · · · · · · · · · · · · · · · · ·
	2010			20.2	0-0	0.8	007	350	
10 / 100	. /		<u> </u>	10.0	0.4	4.9	0.38	332	5.7
12/2/97				18.9	0.4	1.0	0.39	223	
	1604				0.4	0.7	0.40	182	
	1607			19-1	0-4	0.6		161	
	1609			19-1	0.9	0.6	0-40	101	
				1/ 3		, ,	A 27	7 2 7	25
12/4/97	1410			16.3	1.6	1.8	0-23		20
	1415			16.6	1.4	0.6	0.27		
	1418		<u> </u>	16.6		0.5			<u> </u>
	1421			16.8	1.3	0.4	0.27	145	
	0			10.	a. /:	-7 6	2.00	1 12 0	ASR
12/9/97				19.1	0.4	0.0	0.02	18:2	1101
	1742			19.4	0.3	0:0	004	17.1	
	1747			19.5		0.0	0.72	15.0	<u> </u>
	1753			19.7	02	0.0	0.03	1773	-
10 /12 /23	10.00			16.1	1-8	0	0	21-8	7:
12/13/99	1225				1-8	0	0	18.8	9 0
	1230			16.1		0	0	18.1	
	1235			16.3	1-7	0		10.1	
<u> </u>							 		!
	<u> </u>							 	<u> </u>
		<u> </u>	-				<u> </u>		
									
									· · · · · · · · · · · · · · · · · · ·
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Vapor Monitoring Well SSO6-MP5 Test Location SSO6-MP5B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
4/11/97	1740			0.3	12.8	139.2	0.0	119.8	
1	1741		!	0.3	12.7	1434	0.0	120.7	
*	1742			0.5	12.6	1436 1454	0.0	121.9	
امراه ارد									
11/1497	2129			19.5	0.4	2.1		i	
	3131 3130 3130			195	0.4	0.9			
	2131		i	19.5	0.4	0.4			
	2132			19.5 19.5	0.4	0.6		i	
	2133			19.5	04	0.5		442	
11/13/97	11:20			PUR61	NG-				
11/12/17	1/:28		_	10.2	3.8	8.8	_	304	FA
; ;									
11/13/97	430								
		0:27							
ī.	441	0.25						i	
	508	0.31							
	556	0.28							
	10 10 PM	1 029			,				
1.1.463	100 = M	0-30							
11/14/9 #	4005 AN 920 640 MY	الوان				<u> </u>			
11/15/97	600 P14	C: 17			PUR6/10	6			
	615			19.5	0.0	00		37.0	
11/17/97	210 14	218		18-9	0.0	00		12.5	
11/18/97		0.19		21.2	0.00	0.00		14.1	
	1504			21.2	0,00	0,00		13.1	
	1507			21.2	6.00	0.00		13-1	
11/19/97	1600			19-9	0-0	0-C		9-0	
	1605			20.0	0-0	0-0	0	9.6	
	1608	0-07		20-0	0-0	0.0		9-6	

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Vapor Monitoring Well _____ Test Location _____SSOG \$MP 5 B

		Vacuum		İ	!		ı	t .	*
Date	Time	(inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Holins	PID ()	0 1
11/20/97		Oill	remp. (r)	70 02	70002	/6CH4	% Helium	PID (ppm)	Operator
	17-11			20.5	0	U	0	10.4	TZ
	1719			20.5		0	0	10.4	20
	: 			/				10.7	:
11/21/97	1507	0:15							
	1527	·		20.8	0	8	C	16.5	55
	1533			208	O	<u>:</u>	೨	11.0	
	1537			20.8	Ċ	€'	0	10.1	
11/22/97		0.12							
	15411			20-9	٥. (0	U	3.7	TZ
	1544			20.9	0.1	U	0	3.7	
	1>47			20.9	0.1	C	0	2.2	
11/22/07	101.0	-6 11							
11/23/97		0:11		20 /	A 3			165	SJ
	1842	_		20:6	0.3	0	0	152	
	1845			20.7		0	0	152 154	
	1077			20-7	<u>U-5</u>		0	/> 4	
11/24/97	1520	-0,08		16.0	3.4	61.5	0.69	210	JP
,	1526			16.0	3.4	63,4	0.68	210	
	1529			16.0	3.5	64.5	0.68	209	
	1532			16,1	3.5	63,9	067	208	
11/24/97		-0.08		17,8	3.3	79,0		213	JP
	1953			17.8	3.7	93,0	1.1	202	
	1955			17.8	3.2	92.7	1.1	200	
1/24/20	2011							·	
11/24/97							1.0		JP
	2350				-		1,0	170	
11/25/97	2227			15-7	4-7	17-4	0.50	477	SJ
11/25/97	22-32			15-8	4-3	13.9	0-41	479	27
	2236			16.1	4-1	12.8	0.38	477	
						0	0 - 0		
11/26/97	1506			17-9	1-9	0.8	0.26	241	ZZ
	1510			18.3	1.6	0.6	0.24	215	
							<u> </u>		

8-5 1-5

0-6 0-24 204

Vapor Monitoring Well SS-06 Test Location MPS-B

		Vacuum (inches		gr. 02	# CO2	a CW4	<i>a</i> . IV.1:	PFD ()	
Date	Time	H20)	Temp. (F)	% 02 18-3	%CO2 /-3	%CH4 0:2	% Hellum	PID (ppm) オ・ひ	Operator FA
11/28/97		ī		14.2	1.3	0.2	0.19	12-0	/ / -
1/20/0	1920		!	18.2	2.1	0.6	007		
- 11/50/97	2005		!	17-3	1.8	0.5		30 D	
	1			,,, ,	- 0				
12/2/97	1614			10.0	5.7	०.४	0	146	TZ.
	1617			10.2	5-5	0.7	0	138	
	1620			10.4	5.3	0.8	0	135	
12/4/97	1427			4.5	8.5	2.4	0	206	77
7"	1430	:		4.6	8.4	2.3	0	213.8	
	1432			2.1	7.9	2.2	0	211.4	
	1434			5.5	7-8	2-1	0	209-0	
								4 - 17	
12/9/97	1800			11.6	53	0.1	0.0	45.5	FA
	1905			12.1	4.9	0.2	0.0	50-5 52.9	
	1810			12.5	4.7	0.2	0.0	52.9	
2/12/02	12/-7		1	1- 0	/ 2	0.4		122.7	<u> </u>
12/13/97	1357			10.8	6.2	0.4	0	122.7	<u> </u>
	1404			10.8	6.5	0.5	0	130.2	
	100			10.	0.2	<u> </u>		(30 -	
,									
							4.17		
									
								<u> </u>	



Vapor Monitoring Well SSOU-14P5 Test Location SSOU-14P5C

1944 1946 1947	H20)	Temp. (F)	% 02 0+ 0·0	%CO2 13.4 13.3	%CH4	% Helium 0.0 0.0	PID (ppm) 77.1	Operator
945 1946 1947				13.3	OFFScale	0.0	77.1	
1946			0.0	13.3	oriscale.	0.0	17.1	
2123								
≥ 2123								
2123							+	
2 2123								
क्रिया ३३		L		 				4
Ainil			19.9	0.9	5.4			
4147			19.1	0.9	2.7			
2125	*		19.1		1.8			
2126			19.1	0.9	1.3		6-316	31
11:28								
11:33			4.7	9.5	114.6		/08	FA
4.30								
	0.67			!				
442	0.65							
508	0.69							
556	0.6+			<u> </u>	<u> </u>			
	$\frac{1}{100}$,			1			
10101	W 16 9							
1005 ATT	0.64							
 1								<u> </u>
	0.43		A	186116			<u> </u>	
E IOPH						-	 	
670							77.7	
2 40 PM	5 45		15 S	00		!		<u> </u>
1705	9.43		21.1	0.00			192.1	
1716								
1724			21.0		0.1			
1727			21.0	0.1	0.1			
			21.1	0.1	0.1		104.0	-
	11:28 11:33 4:30 4:30 4:42 508 556 10101 405M 42:M 6:10PM 6:10PM 6:10PM 1705 17-16 17-16 17-24	2126 11:28 11:33 - 4:30 0:67 442 0:65 508 0:69 556 0:67 10101MD:69 10101MD:69 405MH 0:64 42:M 0:43 6:10PM	1126 11:28 11:33 4:30 0:67 442 0:65 508 0:69 556 0:67 10101MD:69 405M1 0:64 42: M 0:43 6:10PH 6:10 2:40PH 3:45 1705 9:43 17-16 17-27	1126 11-28 11:33	19.1 0.9 11.28 11.33	19.1 0.9 1.3 11:28 11:33 — 4:7 9.5 114-6 4:30 0:67 442 0.65 508 0.69 556 0.67 10101MP .69 405MP 0.64 41:M 0.43 6:10M 6:10M 6:10M 6:10 2:10 0.1 0.1 1727 1736 21.1 0.1 0.1 0.1	11.28 DURGNG 1.3 -	11.26 11.28 11.33

18.

Vapor Monitoring Well ______S506a Test Location ______HP5C

	: :	Vacuum (inches	÷		:				:
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	Ī	PID (ppm)	
11/19/97	1812			1010	1,9	14,8	0,94	83.5	JP.
	1817		ž.	17,8	5.0	15,9	0.97	79.7	
	187-1	0.22		17.7	2.2-	17.3	0,93	77,1	
1112019	7 2026	0-29			!	<u> </u>			
 	2030			19-8	0.4	1-8	1.35	187	SJ
	2033			19.6	0.5	1.8	0.07		
	2035			19-6	0-6	1-8	0.08		
	2039		-	19.4			0.08		
	•								
11/21/97	17-13	0.59	:						55
	1716			21.0	ن.	0	0	3.6	
	1719			21.6	C,		0	2.7	
	1724			21.1	Ü	<u> </u>	0	3.4	
11/22/97	1717-	0.51							
111	1713			19-5	0-5	0.8	D	283	3 J
	1716			19-3			O	265	
	1719			19-3	0-8	2-2	0	262	
11/2/97	1507	0.70							
1/23/97	1510	0.30		20.7	0.2	ð	0	462	Te
	1514			20.7	0.3	0	0	487	
				20-6	0.3	0	0	426	
	1517			20.5	0.2	0	0	449	
11/24/97		-023		18.Z	2.3	>>>150		130	JP
	1539			18.2	2.4	>> 150	1,2	131	
	1543			18,2	2.4	77150	1.2	<i>i31</i>	
11/24/97	1958	-0.23		18.8	1.5	>>:50	1.6	131	JP
	2007			18.8	1.6	77150		130	
	2013			18.8	1.6	77150	1,6	129	
101/20	20-3						1.6	100.0	JA
1/24/97	2353								<u> </u>
	2356						1,6	95	
	23					1	1.5	l	

11/25/97 2243 2252 2255

16.4 5.0 16.4 4.9 16.4 4.9 >>150 0.93 253 SJ >>150 0.78 252 146.5 0.91 243

Vapor Monitoring Well MF5C Test Location 5.5 5.6

	:	Vacuum (inches		1	: :	i			
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	1517	· ·		14.3	4.6	129-7	0.82	169	7.2
	1520	į.		14-3	14.5	123.4	0,76		
	1523			14.3	4-5	12.1-0	0.73	181	
11/28/97	1925 1935		:	10.7	4-5 5-8	1 6 6-8			
	1935			10.6	6-4	105-8		193	
11/30/97	2020			5.3	8.8	1/3-1		180	
	2025			5.3 5:3	87	115.2		200	
12/2/97	1624			3.1	10.9	141.5	0	114.6	SJ
	1627			3.1	10.9	145.9	0	115.4	
	1630	:		3.1	10.8	146.0	0	117.9	
								:	
12/4/97	1441			1.0		>150	0.01	121.6	22
1 1	1443			0.9	12.4	7150	0	124.2	
	1445			0.9		7150	0	124.0	
	1447			0-9	12-4		Ö	126.3	
1 / 2/ -				Í				:	
12/9/97	1900			00	13.2	1366	9-0	126.8	FA
	1905			0-0		1409	0.0	129-3	
	1910			0.0	13.2	141.3	0.0	131.7	
12/12/100	1 1								
17/13/97	1541			0		7150	0	205	SJ
	1544			٥	14-1	>150	0	207	
	1550			0.1	14.1	7/50	0	211	
	1600			0.2	14.1	146.0	0	217	
	•								
									
	-								
						<u> </u>			
						<u> </u>		<u> </u>	

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Vapor Monitoring Well MP6 Test Location 5506

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
11/24/17	2022	-0,53		19.7	0.0	46.0	2.0	409	JP
	2025			19.7	0,0	48,3	2.0	406	
	2028			197	0.0	48.7	2.1	409	
	2030	Start	Sum ma	Cani	ster				
	2046			19,6	0,0	44.2		416	
	2053			19,6	0.0	48,2.	2,0	416	
	2110			19.6	D. a.O	47.3	2.0	425	13R
	2120			19.6	0.00	476	2.0	425	
	2130			196	0,00	47.5	20	126	
	2130	End	Summa	Cani	ifer A	15506 S	2002	Vacuus	- = -10'/
							,		
11/25/97	2302			19-2	0.2	63-5	1-4	506	ار ار
1	2304			19-2	0.5	62.7	1-4	510	
	2307			19-2	0.5	62-5	1-4	499	
17/26/47	=550								A
11/26/97	1612			18.4	0.4	184	10	450	H
	1620			18.4	0-4-	480	10	450	
	兹			,					
11/28/97	1945			17.3	0.8	16-1	0.56	350	FA
,	1955			17.2	0.8	14-6	0-59	480	
11/30/97	2030			16.3	1.3	9.1	0.46	511	
	2035			163	1-3	9.2	0.48	496	
12/2/97	1636			15.4	1.8	10.4	0.72		4
7 7	1639			15-4	1-8	9.7	0.75	411	
	1642			15.2	1-8	8.8	0.23	410	
	1645			15.2	1.9	9.8	8-24	411	
12/9/97	2005			11.8	3.3	13-3	0.0	507	PA
	2010			11-6 .	3.4	11-9	00	486	
	2015			11-2	3-5	11-5	00	475	
12/13/97	1605			11.7	3-8	13.7	0	1090	5
	1610			11-3	4-0	9.3	0	941	
	1615			182.6	4.4	9.6	0	892	
	1624			10.2	4.6	10.4	0	905	
	1629			10.8	4-3	9-0	Ø	886	

	WOKISMITH AFR P	LUT TESTING	2
Groundwater Monitoring Weil _	SS 08B	_ Test Location	MP 1-BC
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Date	Time	105 SAL Water Level (Seed bTOC)	Temp.	C. Rrí	ρĦ	DO (mg/L)	ORP	SPC (MS) Purge Rate (gpm)	Operato
11/29/97	1600	0 364/0.2	7 10	.61	7.16	115/1.28	81.0	6.56D	FA
	1605	0364/02	7 10	62	7.21	11.6/129	79.4	0.560	
12197	1341	6.2857	15.0	<u>3-50</u>	744	4.0/047	-113-6	- 0.438	S.
<u> </u>	1354	0.280/0		7.07	7-17	44/0-48	-121-3	. 0. 432	
L	1903	0.28:10	21-	8-61	7-1-9-	4.2/0.49	-123-1	0-432	
12/1/97	1417	- 0·342/c	2/ 9	9.01	7.00	1/2/01/0			
		2 0.345/0.			7.29	4.3/0.49			
				7.38	7-29	4.3/0.49			
	1120	3 0.345/0	26 7	7.07	7.29	4.2/0.40	-82.	5 0.233	
12/3/97	j027	- 0.361/0.	27	1.93	7.04	7.6/0.8	6 108.	2 0.55	کہ -
	1034	1 0-364/0	.27 1	0-04	7-11	<u> </u>			
	1040	0-364/0		0.04	7.20				
			·				<u> </u>		
12/4/97	1636			4-76	7-57	7-710.87	7 49.6	1 0.59	5
	1641	0.37710		7.67	7-4	3 6:1/0-69	50.6	0.57	9
	1646	0.381/0.		1.65	7.30	5.4/0.61	50=1	0.58	7
	1657	-0:393/6·	30	7-80	7-34	4.5/0.5	1 47.	3 0.600	ó
12/5/97	1020	0.356/0	22 (2.25	7 11	11.642	1 Ing		
1111	1029			8-18	7-24				
	1035	7/4		8.35	7.25	14.8/1.7			
	1041	0.7540		8-42	7.28				
		7			1-20	14.9/1.7	4 104.	1 0.54	7
12/6/97	102	8 0-335/0	>.25	5.83	7-04	13.6/1.7	5 63.5	5 . 0.5/5	S F,
	10 3	2 0.330/0	25	6.97	707	117/1.4	1/ 55.	0 0.50	S
	103	6 0:331/ c	7.25 7	7.76	7.12	11.5/13	3 46.2	- 0511	
	104	3 0 336/0	25 8	3.00	7.21			2 0.517	
12/7/97	100	6 0.211/2	2,22	,	10	12 -11			
	10 2	0 021-1	25	5.22	0.7.	2 12.0/1.4	8 //2	7 0.48	D FA
	1020	5 0.2	22	7.21	10	6 /3.8/ 1.6	7 107-	7 0.47	
	1040	03/0/0	272	7.44	7.12	149/1.78	3 100.	2 0.47	
	, 0	- 314/0	٠ ٠	1.21	7/8	3 16 7/2-0	2 104	5 0.484	7
			······································						

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Groundwater Monitoring Well SSOBB Test Location HP 1-C

Date	Tīme	Water Level (feet bTOC) To	amn Œ	, II	DO (ma/L)	ORP	Purge Rate	0======
		0.286/0.21		pH 6≤3	DO (mg/L) 17.5/2.05		(gpm)	Operator
140177		0 297/022		6.96	·		0 457	FA
		0 300/022			18.4/2.16			
	1150							
		0 300/022		7.16				
	M. J.J.	0 216/022	033	7 16	21.6/2134	736 6	0.437	
					7 100 100 100 100 100 100 100 100 100 10			
12/9/97		0.319/0.24	8.38		36.9/4.23	153.1	0.493	FA
	1235	0.321/0.24	8.86	6.87	22.0/2.55	143:9	0.493	
		0 320/0 24						
	12 45	0.310/0.23	8.69	7-14	27.9/3.24	134.9	0 476	
	1250	0.305/0.23	8.70	7.21	30 2/3.52	132.6	0.467	
12/10/97	1055	0.300/0.22	6.52	6.83	42.8/5.22	128.5	0.462	FA
	1100	c 306/ c 23	674	5.97	8.4/4.68	123-3	0-473	
		0.313/0.25						
		> .311/0.23			3.4/4.69 11		0.481	
·- 1	10 0					. 0		
12/1197		0-299/0.2						27
		0.29710.2						·
	1808	0.304/0.2	3 8138	7.44 4	16.6/5-46	- 57.4	0,466	
	1810	Sampli	d			1,1, 2		
	1913	0:303/0.2	3 8:45	7.45	46.1/5.37	-46.6	0:461	
12/12/97	1425	0.270/0.21	8-10	7-37	63.2/7.48	-54-	7 0-412	S J
·	1428	0.266/0-20	8-22	7-40	65-6/7-72	489	0-408	
	1430	0-264/0-2	0 8.26	7-43	66.1/7.76	-45.3	0.407	
	1435	0-264/0-2	8.37	7-46	65-2/7-64	-36-4	1 0.407	
12-114107	1/02	D.221/n.24	בר.ע	7.35	115.21.2 10	- 47.7	D 1.0 -	· -
12/14/97	1603	0.321/0.24	077	7.73	115.7/13.48	177	7.44.5	17
	1607	0. 324/0.24	0.18	7-43	117-7/13.66	<u>- 33.4</u>	0.500	
·	1013	0.324/0.24 0.323/0.24 Sampling	1-04	t-46	15-9/13:36	-52.8	0.476	
	1615	surply						
			·					
						· · · · · · · · · · · · · · · · · · ·		
	···········		 					



Groundwater Monitoring Well SSOBB Test Location MP 1-10

		TOS/SAL Water Kevel			90/	l	Spins	
Date	Time	(feet bTOC)		-17			Purge Rate	
	7 1355				DO (mg/L)		(gpm)	Operato
1/21/7	1405		5 778				6-516	H
70			3 9.60	7.15	15.0/1.71	75.9	0.517	
C 1129/	97 1600		71561	7.16	11.5/1.28	81:0	10560	•
	1605			7.21	11.6/1.29	794	0 560	
11/29/9	17 16 25			1-08	19.5/1.08	-76.7	0.475	
11/29/9	7 1610	0.346/0.2	6 10 23	7.10	11.1/1.25	65.0	0.532	
	1615	0347/026	10.20	712	10.9/1.23	80.2	0.534	
12/1/9.	7 1433	0-333/0.25	9.37	7-18	6-1/0.68	-69.8	0.596	35
, , _		0.332/0.25		7-14			0.510	
	1443					1		
		0 37-70 23	0 17	+·12	14-5/0.50	-60.6	0.211	
12/3/97	1054	3221/	all		E 1/2 = 2			
977		0.340/0.25	7.46	7.08	5.0/0.57	33.0	0,523	JP
	1104			7.09	4.9 10.55		0,524	
		0.340/0.25		7.09	4.7/0.53	37.0	0.524	
	1109	0.340/0.25		7.10	4.5/0.52	16,4	0.523	
 	1114	0.340/0.25		711	4.6/0.53	4.9	0.524	
	1119	0.340 10.25		7.11	4.5/0.51	-2,3	0.524	
	1124	0.341/0.25		7,12	4.5/0.51	-3.2	0.524	
	1132	0.340/0.25	9-58	7.12	4-3/0-49	-13.3	0.522	22
15 11 10								
12/4/9	1713	0.353/0.26	7.02	7.26	15.0/1.81	49.3	0.543	55
	1718	0-35410.26	6.47	7.24			0.545	
	17-24	0.353/0.26	6.15		9.9/1.29		0.543	
	1735	0.3570.26	5. 28	7.23	12.6/1.52	42.7	0.550	
					7.72			
12/5/97	1049	0.354/0.26	8.69	7-21	12.6/1.43	99.6	0.544	22
, , , ,	1056	0.355/6.27		7-11	9-0/1.03	90.0	0.545	34
	1101	0.35570.27	9.01	7.11	9.4/1.08		0.547	
		7-1-4		£ 11	1 41.00	71.1		
12/6/97	1004	0.331/0.25	7.77	6.85	8.1/0.96	93./	0.510	Ca
7-7-7	1010	0.334/025	785	095	8.1/0.96			FA
	10/8	0 334/025	7.78	6.97		83:3	0.514	
	10 22	0.334/0.25		· 7·50	8.2/0.98	81.2	0 515	· · · · · · · · · · · · · · · · · · ·
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0 554/0 25	7.60	7.00	8.6/1.02	72.9	0.513	
 								
								

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Groundwater Monitoring Well SSOBB Test Location /-D

Date		Water Level	emp (F)	ъ п	DO (mg/L)	ORP	Purge Rate	0
1					10.2/1.2/		(gpm)	Operator
12/1/97					6.8/0.82		0.462	FA
					6.7/0.81			
					6.4/0.76			
	11 10	0214/0	22 7.30	7 7.5	63/0.76	43.5	0.451	
12/8/97	(7.05	0.287/0.2	1 8.38	7.19	22.5/2.65	1366	0.441	FA
12/8/17		0.286/0.21	· · · · · · · · · · · · · · · · · · ·	7.20				
	1215							
					17-8/2.00			
		0.293/0.2						
	1665	0 213/0.2	2071	, =1	3/1/303	737.0	0 1-1	
12/9/97	1255	± 279/0.21	7.48	7-29	31.1/3.66	131.9	0.422	FA
		0270/0.20				13/.0	0.411	
	1305					130-0	0.402	
	1310			7.31	23.8/2.80	129.5	0.402	
			<u> </u>		· · · · · · · · · · · · · · · · · · ·			
12/10/97	1240	0.259/0.19	7-10 7	.39	18-7/2.27	110.6	0.400	FA
	1245	0.265/0.20			, , -L	109.8	0.412	
	1250 0	0.277/0.21	6.96 7.	41 1	9.8/2.40 1	109-0	0.427	
	1255 0	1.277/0.21	7.01 7.0	41 1º	9.0/2.30	108.7	0426	
			,					
12/11/97	1920	0.275/0.20	8.607	.42 3	32-2/3.76	-36.2	0.431	72
	1923	0.281/0.21	9-727	<u> </u>	25-4/2-72	-32.9	0.419	
	1928	0.276/0.21	11.91 -	7.36	28.5/3.06	-27/2	0.422	
	1930	Sampl	ing				•	·
	1938	0.265/0.21	8,54 =	7.34	31.5/3.64	-19.6	0,409	
		•	•					
12/12/9	7 1442	0.268/0.20	7-29 7	2-44	69-1/8-23	-21.4	0.408	22
	1445	0.260/0.19	8.22 7	41	70.2/8.25	-17-5	0.368	
	1448	0.255/0.19	8-53 7	40	70.8/8.26	- 12-0	0-392	
	1452	0-255/0-1	98-32 7	7-39	70.1/8.23	-6.8	0.392	
	1455	0-254/0.1	9 8.24	7-38	69-1/8-23 70-2/8-25 70-8/8-26 70-1/8-23 69-4/8-17	-3.5	0-390	
12/14/97	1625	0.312/0.23	8-96 7	7-39	106-3/12-29	-1-7	0.483	tr
	1630	0.317/0.24	8.87	2-36	105.2/12.17	6.8	0.490	
	1635	0.321/0.24	8-82 9	7-35	103.4/11-97	12.8	०.५९३	
	1/ 40	Sam pli-	0					

1640 Sampling V&E

Groundwater Monitoring Well SS-08B Test Location MP 1-E

		105/ SAL Water Level	6	<u> </u>	6/0		Spc ms	<u>· </u>
Date	Time	(feet bTOC)			DO (mg/L)	ODD	Purge Rate	
11/27/92	1 1420	0.311/0.23	9-16	7.15	13.5/1.55		(gpm)	Operator
	1426	031/023	9.10	7.19	12.7/1.46	·		
11/28/9		1.10 /						
1/20/11	1615	0341/02		7.12	109//23		0.534	
11/29/97			9.00	7.70	11-1/1-25		+ 0.532	
11/01/77			9.80	7.12	9.3/1.05		0 472	
	1630	0307/023	9.75	7.13	9.3/1.06	-91.0	0 472	
17/1/47	1 17 14	0.4						
12/1/97		0.285/0.21		7-14			0.438	SJ
	1354	0.280/0.21	9-07	7.17	4.1/0-48	-121-3	0.432	
	1403	0.281/0.21	8.61	7-19	4-210-49	-123.1	0.432	
•= 1 •=						1		
12/3/97	1137	0.286/0.21	9.21	7-14	9.5/1-03	-40.5	0.435	TZ
	1143	10-28210-21	9-29	7-14	9-24/0.49	-66.9	0.435	
 	1148	0-284/0-21	9-32	7-16	3.9/0.45	- 766	0.437	
	1155	Samp	line		7 9 17			<u> </u>
	1158	0.2846-21	9-26	7-20	3.710.43	-86.7	0.436	
·		'	• -		1		126	
12/4/9	1746	0.29010.2	2 9.27	6:75	5.7/0.6	c-33.6	0.446	55
1 1	1251	0.290/0.2			5-3/0.61	-500	0.446	
	1756	0.284/0.7			5-6/0.61	-43.8		
		7	+		2 6/8/8/	<u> </u>	171	
12/5/97	1110	0.22570.21	8-09	7-06	11.4/1.34	-19.2	0.439	ZZ
	1115	0.287/0-21	7.66	7.06	10.1/1.21			- 30
	1120	0.287/021	7.56	7.06	9-6/1-15	-57,7	0.443	
		-		1	100/1013	3777	0,4131	
12/6/97	1046	0336/026	6.52	7.25	20.4/2.5	39.4	0.5/6	
	10 50	0.291/0.21	5.47	7-11	16.2/2.05		0 443	FA
	10 55	0.286/0.21	7-39		9 4 1/2/03	-78.0		
	1100	0 285/0.2	7.58	704 7-03	9.6/1:14	-29.1	0.439	
	11 99	0.279/021	7.57	7.06			0-438	
	,4	1001	.,,,,	1,00	7.3/0.87	-71.6	0.430	<u> </u>
12/7/97	1115	0.289/0.22	7 51	701	6.0/= 01	265		
11/1/		0.295/0.22		701	6.0/0.7/		0.446	FA
	1/20			7.01	6.3/0.77		0-456	
	1/25	0-292/0-22		7:03	5.9/0.71		0.449	
		0.295/0.22	7.08	7.04	6.1/0.74	-52.9	0-452	
	435							

X&E

Groundwater Monitoring Well SSO8 B Test Location MP 1-E

				-				
_		Water Level					Purge Rate	
Date	Time	(feet bTOC) Te		pН	DO (mg/L)	ORP	(gpm)	Operator
12/8/97		0 258/021	8.05	7.06			0.442	FA
		0.299/0.22		6.95				
		0.294/0.22		6.96	10.8/1.28		0.452	
	1245	0 297/0.22	7-60	6.96	10.8/1.28	-18.2	0.456	
	1250	5 29 6/022	7.43	6.99	11.6/1.39	-32.8	0.456	
10/00	12.15					4-0-0		·
12/9/97		0.264/0.20	7.78		28.6/3.39	128.3	0.395	FA.
	1315	0.294/0.22			8.5/0.99	b1.1	0. 453	
	12	0.302/0.23		6.99	8.3/0.98	17.1	0.467	
		0.302/0.22	8.34	7.00	8.1/0.95	-16.0	2 465	
	1330	0.304/0.23	8 40	1.00	8.1/0.95	- 27.3	0.470	
12/10/97	12 ch	0293/022	5.91	140	227/274	1090	0.450	FA
1910/11		0.306/0.23	7.15			95.9	0.479	7 //
		0.316/0.23				45.2	0.484	
	<u>-</u>					8.0	0.482	
		,		· · · · · · · · · · · · · · · · · · ·	1.5/0.91 -1		0.480	
	300 3	212,000	7 20	, 00 ,	=/011	7 0		
12/11/97	- 1945	0.268/0.20	10.72	7.33 3	8.2/4.26 -	150	0.428	T 2
		0.270/0.20						
		0.274/0:20					0.421	
	2000	Samplin	ھ		3/3			
		3 0.282/0.2		7.36	37.9/5.76	-3.9	0,434	<u> </u>
								i
12/12/9	7 1602	2 0.260/0.	19 10.3	17.47	73.1/7.95	4-4	0.398	SJ
	160	2 0.260/0. 5 0-256/0.	19 10-	2674	274-217-81	6 7-5	0.398	•
	161 t	0.25410	19 9.	63 7.	12 84.3/8.6	1 11.9	0.405	•
	1615	0.259/0	.19 9-	49 7-4	8 75-6/8-5	54 15.3	0.426	' -
		7			: 1			,
12/14/97	1650	0-314/0.2	2 8-88	7.17	11.571-33	7.5	0.483	72
·	1655	0.313/0.2	2 8-80	7-16	111/1.29	-6-8	0.480	
	1700	0-34/0.2	2 8.71	7-15	10.711-25	-17-6	0.479	-
	1705	- Samp	hing					
			0			· · · · · · · · · · · · · · · · · · ·		



Groundwater Monitoring Well SS-08B Test Location MP 2-C

		TOS/SAL			0/2/		1-D(ms	
		Water Leve	1:		/ /	!	Purge Rate	
Date	Time		Temp. (F)	pН	DO (mg/L	ORP	(gpm)	Operator
11/27/97					13.3/1.50		0 477	
	14 40	0.310/0.2	\$ 10 05	7.31	13.9/1.5	7 -60.7	0.478	
11/29/97	1 1730	0316/02	10.04	7.32	187/09	8 - 73.7	0.486	
	1735	0.316/02	+1042	7.32	9.2/1.02			
			1					:
12/1/97	1453	0.308/0.2	3 9-13	7-27	5.3/0.6	11 - 58.5	0.473	57
	1503	0-300/0-2	2 9-08	7.27	4.2/0.4	7 - 49-2	0.464	
		0-303/0-2			3.910.46	1 - 48.4	0.465	
	1513	0-301/0.2	8.87	7.28	4.7/0.55	- 46.4	0-464	
					1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1	109	
12/3/97	1208	0.306/0.23	10.07	7-31	5.3/n.60	1-710	154.0	Co
		0-30710-2		7-32	4.2/200	- 61.8	0.171	
	1217	0-307/0-27	9 82	7-32				
	1226	10.309/0.23	9-91	7-33			0.473	
		1 1/0 23		1 4-32	(6/0) 2	-38.6	0.476	
12/4/97	1806	0.289/0.2	1 8.29	6,32	22.2 /2 2	V27 -	01445	· 7
7.4.1	1810	0.288/0.2		6.87	21.6/4 2	9 - 72-3	0.444	55
	1814	0.288/0.2	1 8-42	7.04	23.212.9	L -44.7	0.444	
					37-T/J	117	0.444	
12/5/97	1130	0.288/0.21	7.17	7.11	42.6/5.17	-61.0	0-445	77
	1138	0.290/022			42.2/5.19	-591	0 141	
	1143	0.290/0.22		7,14	41.5/5.15		0,447	57
				my KAKE	71.2/2.12	tart read		_
	1149	0.70 /0.22	2 90	777	A.6/5.76	ry ()	0.460	JP
	1155	0.3536.22	A.12	7.24	32,7/4,72	-76,7		
	1202	0.308/0.73	- ;				0,469	
	1206	0.310/0.23			20.7/2.64	1	0,475	
	1211	031/0.23		7.29	18.0/2.32		0.477	
		1	10	7	15.8/2.05	-2117	0.478	
12/6/27	1133	0.280/0.21	7.91	7.16	9,3/1.10	-73.2	0421	
	1137	0.282/0.21			9,2/1,09		0,431	JP
		0.2846.21			24/611		0.434	
		0.285/0.21					0.437	
	1159	0.287/0.21	8.09	7.32	9.6/1.13	4 -	0.438	
	·	1021		1 24	10/13		U 77/	
	!	<u> </u>						

18 -

Groundwater Monitoring Well SS-C8 & Test Location MP - 2C

Date Time (Teet NTCO) Temp. (F) DD (mg/L) ORP (gpm) Operator $12/6/97 + 1255 = 0.325/0.23 = 8.22 + 7.26 = 80/0.94 + 70.7 + 0.965 FA 13.00 0.303/0.23 = 8.24 + 7.24 7.9/0.23 - 68.5 0.466 13.00 0.303/0.23 = 8.13 7.29 7.8/0.92 -69.2 0.466 13.00 0.304/0.23 8.13 7.29 7.8/0.92 -69.2 0.466 13.10 0.304/0.23 8.16 7.29 7.8/0.92 -59.4 0.468 12.17/97 1235 0.278/0.21 6.70 7.1/ 8.8/1.07 -67.6 0.432 FA 12.17/97 1235 0.278/0.22 7.09 7.1/ 8.8/1.07 -67.6 0.432 FA 12.47 0.308/0.23 6.95 7.1/ 6.1/0.74 -58.7 0.474 12.50 0.308/0.23 7.25 7.1/ 5.8/0.69 -56.9 0.468 12.18/97 13.60 0.209/0.21 7.48 7.16 24.3/2.88 -39.6 0.442 43.0 13.05 0.304/0.23 8.15 7.18 16.1/1.91 -33.6 0.477 13.15 0.304/0.23 8.15 7.18 16.1/1.91 -33.6 0.477 13.15 0.304/0.23 8.19 7.22 16.6/1.94 -28.9 0.476 13.20 0.315/0.23 8.01 7.22 16.6/1.94 -28.9 0.476 13.25 0.315/0.23 8.01 7.22 17.8/2.00 -19.6 0.481 13.15 0.315/0.23 8.73 7.20 7.28/2.07 -42.7 0.485 13.16 0.315/0.24 8.93 7.22 17.8/2.03 -39.4 0.499 13.50 0.321/0.24 8.93 7.22 17.8/2.03 -39.4 0.499 13.50 0.321/0.24 8.93 7.22 17.8/2.03 -39.4 0.499 13.50 0.321/0.24 8.93 7.22 17.8/2.03 -39.4 0.490 13.50 0.321/0.24 8.93 7.22 26.1/3.18 -29.7 0.490 13.50 0.321/0.24 8.93 7.22 26.1/3.18 -29.7 0.490 13.50 0.321/0.24 8.93 7.22 26.1/3.18 -29.7 0.490 13.50 0.321/0.24 8.93 7.22 27.1/3.13 -33.5 0.490 13.50 0.321/0.24 8.93 7.22 27.1/3.13 -33.5 0.490 13.50 0.321/0.24 8.93 7.22 27.1/3.13 -33.5 0.490 13.50 0.321/0.24 4.23 7.24 23.1/2.03 -39.4 0.490 13.00 0.321/0.24 4.23 7.24 23.1/2.03 -39.6 0.497 13.10 0.321/0.25 7.18 7.18 7.19 7.18 7.19 7.19 7.19 7.19 7.19 7.19 7.19 7.19 7.19 7.19 7.19 7.19 7.19 7.19 7.19$			Water Level					Purge Rate	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Date	Time	(feet bTOC) Ter	np. (F)	рĦ	DO (mg/L)	ORP	(gpm)	Operator
1305 0.304 0.23 8.13 7.29 7.8/0.92 -60.2 0.468 13 10 0.304 0.23 8.16 7.29 7.8/0.92 -59.4 0.468 12/7/97 1.235 0.278/0.21 6.70 7.1/ 8.8/1.07 -67.6 0.432 FA 1240 0.286 0.22 7.09 7.1/ 8.8/1.07 -66.0 0.461 12.45 0.308/0.23 6.95 7.14 6.1/0.74 -58.7 0.474 12.50 0.308/0.23 6.95 7.14 6.1/0.74 -58.7 0.474 12.50 0.308/0.23 7.25 7.14 5.8/0.69 -56.9 0.468 12/8/97 13.60 0.209/0.21 7.48 7.18 24.3/2.88 -39.6 0.442 A240 13.05 0.304/0.23 9.13 7.18 16.1/1.89 -37.1 0.469 13.15 0.304/0.23 9.13 7.12 16.1/1.91 -33.6 0.477 13.15 0.304/0.23 9.13 7.92 7.21 16.1/1.91 -33.6 0.477 13.15 0.304/0.23 9.01 7.23 16.0/1.90 -24.7 0.481 13.20 0.315/0.23 9.01 7.23 16.0/1.90 -24.7 0.481 13.25 0.315/0.23 9.01 7.23 16.0/1.90 -24.7 0.485 12/9/97 12.45 0.315/0.23 8.73 7.20 17.8/2.07 -42.7 0.435 FA 12/9/97 13.25 0.317/0.24 8.93 7.24 17.8/2.03 -39.4 0.489 13.50 0.321/0.24 8.93 7.24 17.8/2.03 -39.4 0.489 13.50 0.321/0.24 8.93 7.24 17.8/2.03 -39.4 0.499 14.00 0.321/0.24 8.93 7.24 17.8/2.03 -39.6 0.496 12/10/97 1/325 0.313/0.23 7.40 7.72 26.1/3.3 -23.5 0.498 13.30 0.309/0.23 7.40 7.72 26.1/3.3 -23.5 0.498 13.30 0.309/0.23 7.40 7.72 26.1/3.3 -23.5 0.498 13.30 0.309/0.23 7.40 7.72 26.1/3.3 -23.5 0.498 13.30 0.309/0.23 7.40 7.72 26.1/3.3 -23.5 0.498 13.30 0.309/0.23 7.40 7.72 26.1/3.3 -23.5 0.498 13.30 0.309/0.23 7.40 7.72 26.1/3.3 -23.5 0.498 13.30 0.309/0.24 7.46 7.25 24.8/2.97 -27.2 0.499 17.39 0.321/0.24 8.23 7.24 23.4/2.95 -25.5 0.498 13.30 0.309/0.24 7.46 7.25 24.8/2.97 -27.2 0.499 17.39 0.321/0.24 8.23 7.24 23.4/2.95 -62.7 0.490 17.39 0.321/0.24 8.23 7.24 23.4/2.95 -62.7 0.490 17.39 0.321/0.24 8.23 7.24 23.4/2.95 -62.7 0.490 17.39 0.321/0.24 8.23 7.24 23.4/2.95 -62.7 0.490 17.39 0.321/0.25 8.04 7.22 23.3/3.92 -16.1 0.571 5.76 17.1 0.331/0.25 8.04 7.22 33.2/3.92 -16.1 0.571 5.76 17.2 0.331/0.25 8.04 7.22 33.2/3.92 -16.1 0.571 5.76 17.2 0.331/0.25 8.04 7.22 33.2/3.92 -16.1 0.571 5.76 17.2 0.331/0.25 8.04 7.22 33.2/3.92 -16.1 0.571 5.76 17.2 0.331/0.25 8.04 7.22 33.2/3.92 -16.1	12/6/97	1255	0-302/0.23	8.22	7-26	8-0/0-94	-207	- 0-465	FA
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$,	1300	0.303/0-23	8-24	7.27	7.9/0.93	-68.5	0.466	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		130 <i>5</i>	0.304/0.23	8-13	7-29	7.8/0.92	-60-2	0-468	
1240					7.29	7.8/0.92	-59-6	7 0.468	
1240	12/12/01	1775	0.270/0.21	(70	7.//	9.2/107		D.177	En
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	12/7/97								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$									
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$									
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		12.50	0.803/023	7.23		30/00/	-507	0.400	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	12/8/97	13ev	0.279/0.21	7.48	7. 15	24.3/2.88	-39,6	0.442	AZI
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1305							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1310							
13 20 0.31260.23 8.01 7.23 16.0/190 -24.7 0.481 325 0.315/0.23 7.90 7.24 17.4/2.00 .19.6 0.484 12/9/94 1245 0.315/0.23 8.73 7.20 178/2.07 -42.7 0.485 FA 1350 0.317/0.24 8.96 7.22 17.5/2.03 - 39.4 0.489 1256 0.321/0.24 8.83 7.24 17.6/2.06 -35.1 0.494 1400 0.321/0.24 8.74 7.25 17.5/2.03 -31.6 0.496 1400 0.321/0.24 8.74 7.25 17.5/2.03 -31.6 0.496 12/10/97 1/325 0.213/0.23 4.73 7.07 179/2.34 -29.8 0.480 FA 1/30 0.309/0.23 7.40 7.77 261/313 -23.5 0.478 1/335 0.319/0.24 7.38 7.22 26.6/3/8 -29.7 0.490 1/340 0.324/0.24 7.38 7.24 23.7/2.85 - 25.5 0.497 1/345 0.325/0.24 7.46 7.25 24.8/2.97 - 21.2 0.499 1/39 0.325/0.24 7.46 7.25 24.8/2.97 - 21.2 0.499 1/39 0.321/0.24 (0.73 7.19 26.6/2.6 -37.6 0.506 1/39 0.321/0.24 (0.24 7.27 2.2 3.26/2.21 - 46.8 0.490 1/39 0.321/0.24 (0.24 7.27 2.2 3.26/2.21 - 46.8 0.490 1/39 0.321/0.24 (0.24 7.27 2.2 3.26/2.21 - 46.8 0.490 1/39 0.321/0.24 (0.24 7.27 2.2 3.26/2.21 - 46.8 0.490 1/39 0.321/0.24 (0.24 7.27 2.2 3.26/2.22 - 48.1 0.571 0.571 1/217 0.331/0.25 8.04 7.25 3.292 - 48.1 0.571 0.571		1315							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1320				, , , , , ,			
1350 0.317/0.24 8.96 7.22 17.5/2.03 -39.4 0.189 1355 0.321/0.24 8.83 7.24 17.8/2.06 -35.1 0.494 1400 0.321/0.24 8.94 7.25 17.5/2.03 -31.6 0.496 12/10/97 1/325 0.213/0.23 4.73 7.07 17.7/2.34 -29.8 0.480 FA 1/330 0.309/0.23 7.40 7.77 26.1/3.13 -33.5 0.498 1/335 0.319/0.24 7.38 7.22 26.6/3.18 -29.7 0.490 1/340 0.324/0.24 4.23 7.24 23.7/2.85 25.5 0.497 1/345 0.325/0.24 7.46 7.25 24.8/2.97 -2/.2 0.497 1/33 0.327/0.24 10.73 7.19 26.6/2.03 -62.7 0.496 1733 0.327/0.24 10.73 7.19 26.6/2.03 -62.7 0.496 1739 0.327/0.24 10.73 7.19 26.6/2.03 -62.7 0.496 1739 0.327/0.24 10.25 7.25 29.0/3 21 -76.8 0.499 1739 0.327/0.24 10.25 7.25 29.0/3 21 -76.8 0.499 1747 0.327/0.24 10.25 7.27 27.0/3.04 -37.6 0.506 1748 175		1325	0.315/0.23	7.90	7.24	17.4/2.00	-19,6		
1350 0.317/0.24 8.96 7.22 17.5/2.03 -39.4 0.189 1355 0.321/0.24 8.83 7.24 17.8/2.06 -35.1 0.494 1400 0.321/0.24 8.94 7.25 17.5/2.03 -31.6 0.496 12/10/97 1/325 0.213/0.23 4.73 7.07 17.7/2.34 -29.8 0.480 FA 1/330 0.309/0.23 7.40 7.77 26.1/3.13 -33.5 0.498 1/335 0.319/0.24 7.38 7.22 26.6/3.18 -29.7 0.490 1/340 0.324/0.24 4.23 7.24 23.7/2.85 25.5 0.497 1/345 0.325/0.24 7.46 7.25 24.8/2.97 -2/.2 0.497 1/33 0.327/0.24 10.73 7.19 26.6/2.03 -62.7 0.496 1733 0.327/0.24 10.73 7.19 26.6/2.03 -62.7 0.496 1739 0.327/0.24 10.73 7.19 26.6/2.03 -62.7 0.496 1739 0.327/0.24 10.25 7.25 29.0/3 21 -76.8 0.499 1739 0.327/0.24 10.25 7.25 29.0/3 21 -76.8 0.499 1747 0.327/0.24 10.25 7.27 27.0/3.04 -37.6 0.506 1748 175	12/0/02	1346	0.315/0.27	8.72	7 10	178/207	- 10 7	A 496	FA
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1 - 1 1 1 1					,			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				8.83	7.24	17.8/2.06			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$									
$\begin{array}{cccccccccccccccccccccccccccccccccccc$,						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	12/10/97			4.73	7.07	14.7/2.34	-29.8	0.480	FA
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$									
$\frac{13.45 \text{ p.}325/0.24}{17340.25} \frac{17.46}{17.25} \frac{17.25}{1$									
1211 122 1725 0.321/024 10.73 7.19 266/2.63 -627 6.496 10.73 0.327/0.24 10.09 7.25 29.0/3.21 -46.8 0.499 1739 0.327/0.24 10.04 7.29 27.0/3.04 -37.6 0.506 1745 28, 500, 107 1747 0.327/0.24 10.00 7.23 27.6/3.04 -37.6 0.506 12/12/97 1315 0.339/0.25 7.85 7.18 31-9/3.78 -54-1 0.519 ST 1320 0.335/0.25 8.64 7.22 33.2/3.92 -48.1 0.515									
1733 0 32715 24 10.59 7 25 29.0/2 21 -46.8 0 499 1739 0.32716.24 10.24 7 29 27.0/2.04 -37.6 0 506 1745 28, 500, 1071 1747 0 32716.24 10.00 7 20 27.6/2.08 -27.7 0 304 12/12/97 1315 0.339/0.25 7.85 7.18 31-9/3.78 -54-1 0.519 ST 1320 0-335/0-25 8-64 7.22 33.2/3.92 -48.1 0.575		13 45	0325/024	7.46 7	.25 2	24.8/2.97 -	21.2	0.499	
1733 0 32715 24 10.59 7 25 29.0/2 21 -46.8 0 499 1739 0.32716.24 10.24 7 29 27.0/2.04 -37.6 0 506 1745 28, 500, 1071 1747 0 32716.24 10.00 7 20 27.6/2.08 -27.7 0 304 12/12/97 1315 0.339/0.25 7.85 7.18 31-9/3.78 -54-1 0.519 ST 1320 0-335/0-25 8-64 7.22 33.2/3.92 -48.1 0.575	12/1/2	1725	0 221/ 024	10 73	7:10	26/12.02 -	-677	h.441.	
1739 0.327 (0.24 10.24 729 27:0/3.04 -37.6 0.506 1748 28, 500, 107 1747 0.327(0.24 10.00 729 27:0/3.04 -37.6 0.504 12/12/97 1315 0.339/0.25 7.85 7.18 31-9/3.78 -54-1 0.519 ST 1320 0.335/0.25 8.04 7.22 33.2/3.92 -48.1 0.575	· · · · · · · · · · · · · · · · · · ·								/ ·- F
12/12/97 1315 0.339/0.25 7.85 7.18 31-9/3.78 -54-1 0.519 ST 1320 0.335/0.25 8.64 7.22 33.2/3.92 -48.1 0.515 1325 0.334/0.25 8.64 7.24 33.9/4.01 -40.6 0.576		1739	0.327/0.24	10,24					-
12/12/97 1315 0.339/0.25 7.85 7.18 31-9/3.78 -54-1 0.519 ST 1320 0.335/0.25 8.64 7.22 33.2/3.92 -48.1 0.515 1325 0.334/0.25 8.64 7.24 33.9/4.01 -40.6 0.574									
12/12/97 1315 0.339/0.25 7.85 7.18 31-9/3.78 -54-1 0.519 ST 1320 0.335/0.25 8.64 7.22 33.2/3.92 -48.1 0.515 1325 0.334/0.25 8.64 7.24 33.9/4.01 -40.6 0.574		1747	0 37716,04	18:50	- 2-	27-6 3.08	-27,7	0 304	
1320 0-335/0-25 8-64 7-22 33-2/3-92 -48-1 0.515	12/12/97	1315	0.339/0-25	7.85	7-18	31-9/3.78	-54-1	0.519	72
13250.334/0.25 8.04 7.24 33.9/4.01 - 40.6 0.514 1330 0.335/0.257.69 7.25 34.1/4.05 -31.9 0.513		1320	0-335/0-25	- 8-14	7.22	33.2/3.92	-48.1	0.515	
1330 0.355/0.257.69 7.25 34.1/4.05-31.9 0.513		1323	-0.334/0.25	8.04	7-24	33.9/4-01	- 40.6	0.514	
		1330	0.33540.5	57.69	7.25	34.114.05	31.9	0,513	

X8E

Groundwater Monitoring Well MP-2C Test Location SSOSB Date Time (feet TOC) Temp. (F) pH DO (mg/L) ORP (gpm) Operator

12/14/97 1451 0.335/0.25 8.42 7-17 36.0/4.19 -39.8 0.513 5J

1455 0.333/0.25 8.66 7.23 37-2/4-33 -36.3 0.5(2)

1500 0.332/0.25 8.80 7.25 38.5/4.42 -30.7 0.5(0) TDS/SAL 1505 Sampling

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Groundwater Monitoring Well SSO8B Test Location MP 2-D

		TOJ/SAL I			6/0/		SpC ms	·	
	-	Water Level	" <	•		•	Purge Rate		
Date	Time	(feet bTOC)		pН	DO (mg/L)		(gpm)	Operator	
11/27/97	1450	034/023	9.59	7.18	125/1.42	-25.7	0 482	FA	
	1455	0.314/0.23	9.51	7.18	13.0/1.49		0484	!	
11/29/97	1745	0.324/0.24	9.86	7.20	18.6/0.96	-42.3	0.498		
	1750	0.324/0.24		7.18	8.2/6.92	-37.9	0.497]
12/1197	1523	0-313/0.23	8.77	7-25	13.5/1.47	7-37.8	0.477	SJ	
	1526		9-33	7-17		-35.7			
	1531	0.30940.23	9.65	7-14		- 38-3	0.474		
	1536	0.308/0.23	9-36	7.13	4.1/0.47	- 41.3	0.476		
	1770	10 30 67 0 - 3			14				
12/3/97	1234	6.318/0.24	9-50	7-18	4-2/0.47	-37.7	0-489	SJ	
- 1 T. I. T.	1239	0-312/0-24		7-17	3.8/0.44				
	1245	10.320/0-24			3-8/0:43			-	
		75-75-7		1 1 7	7-17				
12/4/97	1821	0-311/0.23	7.29	6.61	25.8/3.0	1-20.8	0,485	75	
· · / · / · / · / · / · / · / · / · / ·		1 .	i		13.2/1.5				
		0.3216.24	7.48	7.10		7 - 33.2			
	1827	0.325/0.24	7 10	7.10	11./1.02	73.2			
12/5/97	1219	0,282/2.21	4.62	w 7 7	28.4/3.64	-210	0.434	JP)
12/2/9/	1226	0.258/0.19	4,46	7.27	2011/2.60		0.395	37	> 2
	1234	, ,		7.23	13.571.75		0-390	20	2 ح
!	1241	0.254/0.19	4.09	7.23	11.5/1.49		0.390		
•	10 11	0-253/0.19	7/01	7.23	10 3/ 10 (3 7 1	0.340		
in 10-10-	12 50	2205/205	4 75	7-19	1311/15	-57-2	0.474		
12/5/97		0.305/0.23			1			25	
		0.309/0.23		7.20	11.8/1-37		0.475		
	12.70	0.309/0.23	8-33	7-19	6.5/1-24		0.474		
	(3/6	0.308/0-23	0- > 0	+-19	9.4/1.09	-42.6	0- (49		
1-1/1-0	1217	1.0-1/	7.1-		10,11,	16.13	0.440		
12/6/97	1317	0304/0.23	1.42		13.6/1.61	-48·U	0.408	FA	
	1325	0306/023	+.4+	7.21		1-42.4			
	1330	0.305/0.28	8.04	7.20		-40.6			
	13 35	0.305/0.23	8-04	7-19	6.8/0.50	-39.8	0.468		
				.					
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Groundwater Monitoring Well SSOS B Test Location MP Z-D

Date	Time (f	Vater Level Veet bTOC)	Temp. (F)	pН	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/7/9	7 1300	0 317/0.	24 5.26	7.16	7.7/0.98	-54.2	0.4.8%	FA
	1305	0.281/0	20 621	7.15	8.6/1.05	-57.9	0-423	
	1310	0.262/0	19 6.56	7.19	5.5/0.67	-69-3	0.403	
					53/0.6			
·····	13 20							
12/7/97	1330	0.288/0	121 7.03	7.21	6.4/0.77	-64.2	0.447	FA
	1335	0 294/2	D-22 7.21	7-19	5.7/0.68	-62·D	D- 454	
	1340	0 302/	022 709	7.18	5.6/0.67	-50.6	0-131	
T-117	13 45	0 303/0	73 7 2/	7.11	5.6/0.67	57.0	0 709	
		2007	25 7 26	, , , ,	3.070.04	-34.0	0 468	
12/8/97	1335	0.296 / o	22 7.69	7.15	10.8/4.26	-114	0.410	<15R
	13 40	0.311/0.	23 7.64	1.09	8.9/1.06	- 21 ts	0.474	<1)2
<u></u>	1345	0.311/0.7	187	7.08	9-2/109	-252	D 1.75	
	1350	7.312/0.2	3 7.77	7.09	9-2/1.09	- 18 a	0.499	
					. // 1.01	20.7	2.780	- <u></u>
12/9/97	1405 0	313/0.23	8-29	7.21	16.0/1.83	-25.3	0.477	FA
	1410 0	312/0.23	8.69		9.2/1.06			
	1415 0	3/3/ 6.23	8.73	7.16 8	3.1/0.94	-31.5	0.482	
			8.88		-9/0.91	- 33.0	0.482	
12/10/97	1350 o	341/0.25	5.76	7.27 2	84/350	-16.4	0.5/5	FA
/	(355 03	321/0.24			.5/6.90 -			
/	400 03	317/0.24	7.68	7.16 68	8/0.80	-253	2.486	
(405 0.3	315/0.24	7.59	7.16 7	1/0.85	- 27 -	0.400	
						•		<u> </u>
2/4/97	17540.	319/0-24	10-34 :	7.13 8	.1/0.92	-428	0-793 0-493 0-485	SJ
- V	1804 0.	321/0074	10.09	7-14	304/12094	-45.2	0 115	
	1809 0	·31 = 10·2	(0.01	2-11	7.410.0	, 4 <u>0</u> Ω	2.4.0	
	1815 S	ambli	~	4.114	7170.8	3 - 13.8	0.485	
	1819 0.	31910-24	9,50	7.15	7.9/0.9-	- 40.7	N.L 80	
		~ // ··· \		7-113	1-40,10	- (4, 5	- 0.108	
2/12/97	1340 0-	338/0-25	7.29	7-17	14-6/1-72	-19-9	0.209	SJ
	1345 0:	333/0.25	7-84	710	8.811-03	+7 6·U	الم ال	70
	1350 0.	332/0.25	8.15	7.09	8.7/1-02	-33.6	0.510	
	i355 o.	331/0.25	- 8·2·R	7-09	8.7/1.02	-20 0	0.509	
				· /	- 1/1-03	<u> </u>	0,30/	





Groundwater Monitoring Well MP-2D Test Location SS08 B

_		Water Level (feet bTOC) Temp. (F) 0.328/0.25 2.34 0.330/0.25 8.47 0.329/0.25 8.59 Sampling				Purge Rate	
Date	Time	(feet bTOC) Temp. (F)	pН	DO (mg/L)	ORP	~(gpm)	Operato
2/14/97	1512	0.328/8.25 834	7-13	12-9/1-49	-15-0	0.507	12
, , , , ,	1517	0.330/0.25 8.47	7.11	9-7/1-13	-21.3	0.508	
	1522	10.329/0.25 8.59	7.10	19-6/1-12	-26.6	0.507	
	1525	Samplin			 	i i	· · · · · · · · · · · · · · · · · · ·
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Groundwater Monitoring Well SSO8 B Test Location MP 2-E

	· · · · · · · · · · · · · · · · · · ·	TOS/SAL!	·		0//			
11/27/	97	Water Level	°C	:	%/	•	PCms	
Date	Time	(feet bTOC)		pН	DO (mg/L)	ORP	Purge Rate (gpm)	Ο.
1405	1505	0.263/0.20	9.17	7.24	10-4/1-19		0.40S	Operator FA
	1515	0.259/019		7.26	9-6/1-11		0.398	
	1520	0 258/019		7-27	9.7/1-11		0 396	<u>i</u>
11/29/9	7 1755	0.290/022		7.21		7-71.8		
1 -1	1800	0 282/0.21		7.23	7.3/0.8		0 433	
		0 20 70 24	7 - 0	1123	7-5/00	- 011	735	
12/1/9.	7 1543	10.247/0.18	8.70	7-16	6.3/0.72	-/C/	0.378	SJ
7 + + +	1549	0.244/0.18		7-19	3-8/0.44			
	1554	0.242/0.18		7-21			2.376	
	1557	0.244/2.18			3.7/0.42		0.373	
	1600	0.242/2		7.21				
	1,500	10.242/0.18	8.79	7-23	35/0.41	-107.1	0.374	
12/3/9-	1355	25.10.10	4 - 0	a a.				
1-1-1-1	1403	0.250/0.19	7,29	7.31	3.2/0.39		0.385	.ABR
	1408	0.252/0.19		7.32	3.2/0.39		0.387	
	1414	0.250/0.19		7.32			0.335	
·	17/4	0.251/0.19	6.95	7.32	3.2/0.39	-97.9	0.385	
12/4/9=	1838	0.270/0.20	9.51.	7 11	11. 67. 71	- 110 0		
' 	1849	0.268/0.20	0.59		14.0/1.61		0.413	55
	1849	0.268/0.20	0,47	6.61		-45.1	0.413	
	1677	0.268/0.20	8.51	6:44	4.3/0.50	-62·7	0.413	
12/5/97	Follo	1 -> 1 0/1-	F 4 0		1,			
· -/ 3/1+	1	, //	a was	referred	from S			D 21
· · · · · · · · · · · · · · · · · · ·	1219	0-188/0-21		+.01	20 1/3.6		0.434	16
	1226	0.25810.19		7-24) - 25.3	0-395	てと
	1234	0-254/0-19	4-16		11.5/1.75		0.390	
	1241	0.25/0-19	4-09	7.23	13.1/1-49	-27-3	0.390	
12/6/97	1340	0.272/1	1 1-	7 /-				
1-10117	1345	0 272/0 20		7.18	14.2/1.70		0-418	FA
	13 50	0.263/0.20		7.19	7.4/0.87		0.405	
	1355		7.86	7.20		-63-6	0.395	
	1400	0.255/0.19		7.22	6.4/0.76		0.39/	
	1400	0.254/0.19	7.71	7.23	6.0/0.71	-75.8	0.390]
12/7/97	1220				2			
147117	1320	 	See	·Shect	2-D			
	1325							
	13 35							
	1340			V Q -				

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Groundwater Monitoring Well SSO8 B Test Location HP 2-E

Date	Time	Water Level (feet bTOC)		pН	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97		0273/020		7-13	8-3/0-99		0.420	FA
	1410	0 273/020		7.15	84/101	-62.8	0.421	FA
	1415	0 276/0 20		7.16	18.3/100	·	0.424	
	1420	0.272/020		117	1.7/0.91	-73.1	0.418	
	1425	0274/020		7.17	7.9/0.94	-15.6	0 423	
12/9/97	1425	0.312/0.23	7.42	7.13	15.1/1.77	-32.3	0.472	FA
	1430	0308/023	8.17	7-10	8-2/0.97		0.474	
	1435	0.306/0.23	7.93	7.12	8.0/0.95		0 466	
	1440	0 300/0 22	8-22	7-14	7-3/0.82		0.461	
	1445	10 299/0 22	8.22	7.15	7.3/085		0.459	
		:						
12/10/97	1410	10.318/0.24	5,29 7-17	7.17	14.7/4-85	- 291	0.474	Asr
	1415	0.303/0.23	7.13	7.13	6.8/0.81		0.465	1141
i	1420	0.303/0.23	7.04	7.14	6.6/0.80		0.464	
	1425	0. 299/0.22	7.44	7.15	6.3/0.76		0.463	
		!			1		1 0.463	
12/11/97	1832	10.301/0.77	L 8.78	7.17	7.410.86	5-67.9	0.466	55
1 1		0.302/0.22		7-19	7.2/0.84	-74.8	0.462	
		0.29810.22	• • • •	7-20	6-8-10.78	-80.7	0:460	
	1845	Sample	Pine 1		6.3			
	1849	0-29570:27	8/346	8.99	7-21/0.72	-90.2	0.452	
					,			
2/12/97	1405		7-31	7.12	10-1/1.22	-45-6	0.473	55
	1407	0.307/0.23	7-37	7-14	8-9/1-06		0.473	
	1410	0-3040.23		7-17	8-3/0.99	-28.3	0.470	
	1415	0-306/0.23	7-55	7.18	8-1/0-96	-65-4	0.469	
2/14/97	1542	0.301/0.22	7.68	7-18	7.6/0.90	-47.6	0.462	37
	549	0.304/0.23	8-39		8.5/0-99 -		0.467	
1	552	h .2 -1: /9-23	8-60	7.20	8-7/1-02 -			
1	555	Sampl	li-f					
			V					
					•			
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Groundwater Monitoring Well SSD8B Test Location MP 3-C

	i	Ins/ Car						
	i	TDS/SAC Water Level	- 0_		%/	į	Spc ms	
Date	Time	(feet bTOC)		· nH		;	Purge Rate	
11/27/9	7 1530	031/023	10:10	7-37	9.6 (1.08	-74·1	(gpm)	
	1540	0.309/02		7-38		8 -63.2		,
11/29/92	1805	0306/02		7.34			0.477	
101/11	1810	0.310/0.23			7.6/084	1-82.1		
		03902	10.45	7.37	7.3/0.81	-76.2	0.477	!
12/1/9-	1657	-10.298/0	2. 8.11	7 7	- 7 7 (4 -			
' ' 1	1704	0.2140	22 6-6(7.35	3,2/0.3	54 - 56. E	3 0.460	55
	17 00	0.301/0.2	7 X XO	7.35	3.1/0.36	- 53.7	0.461	
	1709	0.300/0.2	2 9.20	+-36	3.1/0.36	52.1	0.462	
12/2/07	14.00	0.40/		 				
12/3/97		0.297/0,22		7.38	4.2/0.47	-90.0	0.458	131
	14 28	0.302/0.23		7,41	3.3/0.37		0.465	
	14 33	0.302/0.23		7.42	3.2/0.36			
	1438	0.304/0.23		7.42	3.1/0.35	-66.8	0.468	
	1443	0.304/0.23	9.84	7.41	3.1/0.35		0.468	
19 11 . 14-	10						1 1	
144/97	17/0	0.241/0.22		7-35	4-7/0.51	-49.4	0.447	35
	1915	0201/0.22		7.36	4.4/0.48	-45.6	0,442	
	1920	0.293/0.22	9.61	7.37	3.5/0.39	-40.2	0.450	
12/5/2-	10311	A = 2 f						
12/5/97		0.290/0.22		7-34		-43.4	0.447	55
	1338	0,774/022	7.52	7.39	10.7/1,28	-32,1	0.452	JA
	1343	0.294/0.22	7.70	7,39	102/1.22	-27.9	0.453	
	1348	0.295 10.22	7.82		9.8/1.17		0.454	
2/1/63								
12/6/97	·		See S	ret.	2-6			
16/								
12/7/97		0.296/0.22	6.93	7.24	17.1/2.07	-55.3	0.453	FA
	1350	0289/021	7.68	7.32	17.9/2.13		0.444	
	13 55	0-292/0-22	7.68	7.35	19.1/2.28		0.449	
	1400	0292/022	7.63	7.35	19.3/2.30		0.448	
							. , 0	
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Groundwater Monitoring Well SSOS B Test Location HP 3-C

Date	Time	Water Level (feet bTOC) Ter	np. (F) pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97			75 725				FA
1.57.67.7	1435		67 7-29	26.7/3/8			<i>/</i> /A
	1440		35 7.31	26.5/3.19		0 444	
	-1445		85 7-33	26.3/3.20		0 448	no f
	1450		83 7-32	24.4/2.91		0.422	
	1455		05 7.35	27 6/3.26		0.441	
	1500	1 , "	39 7-35	26 3/308		0.441	
		175-176	3/ / 03	20 3/300	01.1	10 471	
12/9/97	1450	0 281/021 8	33 7.25	41.0/4.85	-88.2	0.432	FA
	1455	0.280/0.21 8.	23 7.28	45.8/5.39		0.429	
	1500	/	38 7.30	44.8/5.25		0.432	
	1505	15.252/0.2/8.		42.0/4.91	-47.6	0.435	
12/10/97		0 324/024 5.	66 7.22	31-3/3-99	-72.1	0.483	FA
	1440	0 284/021 7.5		417/4.98		0.435	
	1445	0.284/021 7.6	64 1 7.31	43.1/5.15		0.438	
	1450	0281/021 78	36 7·32	427/5.07	-43.2	0.433	
		/					
2/11/97	1540	0.331/0.24 6.	19 7.20	33.7/4.04	-75.0	0 474	ABR
	1545	0.296/0.22 7.		35.0/4.17		0.455	
	1550	0.296/0.22 7.3		37.0/4.45		0.455	
	1555	SF6 Samplia	NBB3cGn				
	1600	0.293/0,22 7.1	0 7.31	37.8/4.57	-40.3	0.450	
2/12/97	1208	0.316/0.23 8-			-63.9	0.477	ここ
	1213		98 7.29	30.8/3.56	-55.6	0.467	
	1219		29 7-31			0.466	
	1225	0.303/0-23 9-	05 7-32	32-9/3.79	-38.9	0.467	
				,			
2/14/97	1400		77 7-31	267/3-15	-23.2	0.479	27
•	1405	0.303/0.23 7-		25.1/3.01	-47-6	0.464	
	1410	0.302/0.23 7.		25-4/3.05	- 46.1	0.464	
	1415	Sampling		1		-	
		Ů, V	•	·			

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Groundwater Monitoring Well SS-08 B Test Location MP 3-D

		TOS/SAC Water Level			0/2/	:	Sp (m) Purge Rate	
Date	Time	(feet bTOC)			DO (mg/L)	ORP	(gpm)	Operator
1//21/9	7 15 45		0 9.43	7.19	127/11/	1 -71.3	0.422	
	1550				9.7			
		0 268/0-2		7.22	7.3/0.83	-823	0.4/2	+
ļ	-1635			7.22	7.5/0-85	-80-3	04//	
11/19/97	1815	0.275/0.2	010.08	7-19	6.8/0:76	-86.8	0.423	
	1870	0.273/02	01007	7.20	6.9/078		0.420	
		/		!				
12/1/97	1720	0.259/0.1	9 8.87	7.17	4-2/0.4	8-88.2	0.390	35
	1725	0.260/0.11	8:74	7.16	3.5/0.4	b-96.9	0.401	37
	1739	0.262/01	9 8.64	7.18	3.1 10.3	-110.7	0.404	
				/ 10	1	1,0.0	- 157	
12/3/97	1449	0.272/0.20	9.63	7.24	3.9/0.44	-75 A	0.418	A
		0.269/0.20		7. 22		-28.7		Asa
	"	0.270/0.20			3.0/0.34			
	, , ,	0.272/0.20		7-24	3.0/0.34	1	0.418	
	1	0,272/0.20		7.24				
	ĺ	i		4	1 1	- 96.5		·
12/4/97	1924	0.279/0.21	8.94	7.20	0.22 0.90	2 - 52 1	0,476	ZZ
	1928	0.28210.2	1 8.95	7.17	6.3/0.7	61.9	2, 427	22
	1933	0.286/0.2	8.83		4.3/0.50	- 34 9	0,441	
		- 509	>		1 3/0.50	75'1	<u> </u>	
12/5/97	1356	0.286/0.21	7.44	7.19	12.5/1.48	-186	0.449	JP
7	i		7.69	7.15	11.5/1.37			٦٢
		0.297/0.22	7.57		i / · ·		0,453	
	т.		7.58		10.9/1.30		0,457	
		01210/0122	1178	7.16	8,9/1,06	-47,4	0.456	
12/6/97	1207	0 277/0.24	7.57	7.20	11.2/1.32	-27.0	0.435	<u></u>
		0 275/0.20	7.81	715			0425	FA
		0-278/0.21		7-10	8-6/078	-58-0	0.428	
	12-25	10,02	7 73	7/0	000078	74.1	0428	
12/7/97	10	0.291/0.22	7.54	7.17	11.3/1.31	-29.2	0-446	
	/ /	0 296/0 22		710	5.8/0.69			FA
		0 297/0 22					0.455	
				7.10	5.8/0.68		0.456	
		0.296/0.22	T.77	7.09	5.7/0.68	72.4	0.456	
								

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Groundwater Monitoring Well SSU8B Test Location HP 3-D

Date	Time	Water Level: (feet bTOC)	Temp. (F)	рĦ	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1503	5 0.295/0.2						FA
,		0.297/0.					0.458	
		0 301/0.2					0.463	
		0.303/0.23				-66.8		
12/9/97	1510	0308/023	81C	7.08	17-0/1.95	-39.0	0.475	FA
	1515	0.314/0.24	8.43	7.05	11.3/1.43		0.485	
	1520	0.322/0.24	8.72	7.03	7,9/0,92		0.404	
	1525	0.324/0.24		7.04	5.2/0.96		0498	-
	1530			7 04	7.6/0.88		0.494	
12/10/97	1455	0285/021	6.63	7.34	48.5/5.94	-32.0	0.437	FA
	1500	0.284/0.21	6 61	7.34		-25.2	0.438	
	1505	0287/0.21	6.34			-19.5	0.441	
	1510	c-286/0.21	6.11	7.34	47.5/5.89 -	-15.5	0.441	
1		<u> </u>					•	
2/11/97	1605	0.297/8.22	6.31	7.33	49.3/6.11	-31.5	0:459	ABR
	1610	0.319/0.24	4.72	7,20				
	1615	0.324 p. 24	4.12	7.16	36.914.83		0.499	
	1620	0.322/0.24	3.52	7.15	31.2/4.14			
	Pi;	or Frozen	and ro	moved	the Kretes		• •	شد
	1700			7.01	9.3/1.00		9.535	
	1757	0,246/2 26	9.77	7.00	8-610.47	-54.8		
	1712	0.347/026	9,42	7.01	22/205	-61.1	2.535	
2/12/97	1246	0.354/0.27	- 8.29	7.00	9.6/1-13	-20.8	0.5.44	7.4
	1252	0.352/0.2	6 8.58	7-00	9.8/1.15	-54.5	0.543	
	1257	0.355/0.2	7 8-18	7-00	10.7/1.25	- 56-0	0.242	
	1303	0.355/0.27	7-92	7-10	11-2/1-32	-57-3	0.544	
2/14/97	1427	0.761/0.27	7.47	7-06	12.9/1.55 11.2/1.36 - 11.0/1.34	-19-6	0.566	TZ
· · · · · · · · · · · · · · · · · · ·	1431	0.369/0-28	6.82	7-02	11.2/1.36	-25-5	0.567	
	1435	0.369/0.28	6-92	7.02	- 11-011.34	-26.6	0.567	
·····	1440	Somple	J-					
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Groundwater Monitoring Well SSD8 & Test Location MP 4-C

	· .	TOS/SAL	٥٢ -		%/	:	Spcms	
		Water Level		1	7 - 7	:	Purge Rate	; }
Date	Time	(feet bTOC)	Temp. (F)		_ DO (mg/L	ORP	(gpm)	Operator
11/27/97	1650	0.330/0.2	5 9.89		29.4/3.3	3 -55.8	0.509	
	15/70	0 0.335/0.2	5 9.77	7.38	30.1/3.4	-11 - 39.2	0.515	
11/29/97	7 1700	0.346/0.26	1001	7.37	158/17	8 -40.9	1 0.533	
	1105	0.346/0.26	10.03	7.37		1-33.7		
1. (2 =	<u> </u>					1		
12/1/97	+1800	0.327/0-24	19-09	7-34	12-0/1.30	7-75.6	10.506	55
	1802	0.330/0.25	- 8.78	7-34	12.4/1.4	3 -68.7	10.505	
	18/1	0-328/0-25	8.94		12.7/1.4	17 -67.5	0.507	
		/				7 02 2	J 30 /	}
12/3/97	1524	0.339/0.25	8.76	7.39	11.8/1.37	-66.0	105	C
	1530	10.339 10.25	8.91	7-40		- 59-1		
	1535	0.341/0.25	8.67	7-40				
	1541	0.341/0.26		7-41			0.529	
		1			1	1 - 129	0,329	
12/4/97	1948	0.287/0.2	28,21	7-83	19.4/2.0	2 - 58.4.	0.47	
- 1	1953	0.391/0.21	4 9.11	7.20	16.812.01	- 30.4	0-202	22
	1958	0.329 10.25	- 4.24		12.8/1.8	- 37. (0.509	
		7		7:-	77.6	33.6	3.309	
12/5/97	1428	0.31/0.23	7.22	7.24	10.2/1,22	-98 4	0.489	JP
		D. 330/0.25		7.32	11.3/1.34		0.508	٦٢
i		2.334/225		7.35	13.1/1.56		0.514	
-		0.334/0.25		-	14.3/1,68		1	
	1448	0.337/0.25	2.04	7.37	16.0/1.90	-51 /	0.513	
		7			163.011,10	- 760,6	0.518	
12/6/97	1405	0.282/0.21	5.75	7.23	186/240	-77.2	0.443	
	1410	0-289/0-21		• 7.24		-73.4	0.446	FA
	1415	0-318/0-24			30.6/3-64			
		0.322/024	8.14	7.31	30.6/3.61		0-496	
					3- 5/ 3 5/	_ , 3	- 7/0	
12/7/97	1425	0.316/0.24	607	7.15	23.9/3.11	-74.9	0.487	FA
		0.313/0.23		7.24	41.2/4.93		0-484	1 /4
		0.321/0.24	7.74		405/483		0.495	
		0.323 /0.24	7.78	7.32	4/0/487		0.499	
	1445	0326/024	7.70		40.4/4.81		0-503	
				-3	19 1/ 7 3/	300	0 003	
	· · · · · · · · · · · · · · · · · · ·			VO				

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Groundwater Monitoring Well SSOS B Test Location HT 4-C

		77.						
- Data	T:	Water Level		_			Purge Rate	
, Date	Time	(feet bTOC) T			DO (mg/L)	**	(gpm)	Operator
12/8/97		0.316/0-24						FA
		0.318/0.24		7.26	661/711	- 45.0	6.49/	
		0.326/0.24		7.30	595/406	-32.5	6.50/	
	<i>1540</i>	0 327/0 24	7.81	7-32	58.1/6.91	-26.2	0.504	
			-	 				<u>.</u>
12/9/97	1535	0.322/0.24	7.19	7,06			0.504	FA
	,	03/6/0.24		7.25	71-5/8.36			
		0.328/0.24		7.30	73.6/8.69	-55.5	0.505	
	1550 3	0.329/0.25		7.31	73.3/8.64	-49.3	0.506	
	1555 4	331/0.25	8.01	7.33	72.7/8.60	-39-9	0.511	
/ / -								
12/10/97			3:31	7.14	32.8/4.28	-15.0	0.5/1	FA
		0 333/ 0.25	6 84	7.06	7.5/0.91		0-514	
	1525	0.348/6.26	7.05	7.07	7.2/0.88	-56.4	0.538	
	1530	354/0.26	5.81	7.07	7.3/0.89	-62.7	0 546	
/ / -							•	
12/10/97		0 295/0.22						A
		0.300/0.22				-59.1		
		c 326/c 24					0.504	
	1630 c	330/025	7.71 7	1.34 77	4/923 -	-28.2 2	0.5/0	
		· · · · · · · · · · · · · · · · · · ·		·	:		:	
12/11/97		0.293/0.22				-55.9		75
		0.304/0.23				-49.2		
	1457	0.315/0.24	6-61	7-23	79.9/9.78	-42.0	0:489	
	1500	0-319/0.24	7-10	7.25	82-5/19-96	-35.0	0.496	
		· Sourpli						
	150	7 0.33 5/0.25	6 56	7.30	82-6/10.11	-19.4	0-518	
12/12/97	- 1115	0.311/0.23	8.91	7.21	77.2/8.94	-37.1	0.486	JJ.
		0.328/0.25		7.27	80.4/9.23	-25.3		
		0.337/0.25	9.12	7.30	79.5/9.15	-14-4	0.519	
	1130	0.341/0.26	9.10	7.32	79.5/9.15	-6.9	0.524	
					7			
12/14/97	1248	0.318/0.24	8-65	7.21	89-8/10-46	-31.2	0.487	SJ
	1254	0.334/0.25	8-80		98.4/11-41	-17-6	0.514	
	1259	0.340/0.25	8-67		98-0/11-39		0.523	
	1305	0.340/0.25 5 Sampli	g					
		1	7					

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Groundwater Monitoring Well SSO8-B Test Location MP 4-D

		TOS/SAL		i	°/₀/		Spc ms	t
_	;	Water Level			· •	1	Purge Rate	!
Date	Time		Temp. (F)			ORP	(gpm)	
11/27/9	<u> </u>	0.317/0.20		7.17		8 -64.1		
1/2 7/2	520	0.315/02		7.15		1-71-1		İ
11/29/97	1715	0.33/0.29		7.15	7.8/0.88	-75.6	0.5//	
	1720	0.333/02	5 9.90	7.16	83/0.94	-86.4	0.512	i
					<u> </u>			
12/1/97	1817	0.331/0.2	5 8,64	7-15	5-6/0.6	5-76-6	0,506	55
	1822	0.328/0.2	5 8.27	7.14	4-1/0.48	3-89.7		
	1827	0.330/0.2	8.18		3.5/0.41			
		•						
12/3/97	1555	0.3540-26	8.71	7-18	3-4/0-40	-82-9	0.544	55
' '	1600	0.7540.26	8-59		3-2/0-37			
	1607	0.353/0.21	5 8.72		3-1/0.36		0.543	
	1615	Samp	ling					
	1621	0.353/0.2	6 8,63	7.22	3-0/0-35	-93.9	0.543	
					,			
12/4/97	2009	0.362/0.2	75.72	7.19	33.0/4.07	-30.4	0.569	55
	2012	0.371/0.2	2 5.35		26.4/3.28	-38.2	0.572	
	2015	0.373/0.28	4.72	7.13	14.7/1.85	-53-1	0.573	
,								
12/5/17	1455	0.353 27	7.63	7.15	15,7/1,86	-61.2		IP
	1500	2:367/0.28	7,99	7,13	13.3/154	-82.6	0.563	
	1505	0.368 0.28	7.79	7.14	12.5/1.49	-927	0.566	
	1510	0.361 6.23		7.15	11.9/1.41		0.566	
	1515	0.366/0.27	7.79	7.16	10.9/1.29		0.563	
12 // /5								
12/0/97		0-333/0-25		7.29	27.4/3.20		0-527	FA
		0.346/0.26		7.10	11.6/1.37		0.533	
		0.354/0.26		7.08	7.1/0.84		0.545	
	1440	0.355/0.27	8.25	7-08	69/082	-69.0	0.542	
10/0/00	111				,			
1217197	1450	0.340/0.25		7.18	25.7/2.96		0-522	FA
	14 55	0.353/0.26	7.78	7.10	6.8/0.80		0.545	
	1600	0-358/027		710	64/0.77		0.552	
	1505	c-360/0·27	7.95	·7·10	6.2/0.74	-72.0	0.557	
		<u>:</u>						

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Groundwater Monitoring Well SSO8 B Test Location MP 4-D

Date	Time	Water Level: (feet bTOC): 1	Temp. (F)	рĦ	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1540	0.351/0.26						FA
	1545	0.360/0.2	7 7 2		8-7/1.04		0.555	
		0.363/027			8.6/1.02			
		0.364/0-27					0-561	
12/9/97	1600	0 351/0.26	7.81	7.08	12-8/1-50	-45.1	0.540	FA
				7.07	8.9/1.07	-59.8	0.556	
	1610	0.363/0.27	7-97	7.07	8.2/0.97	-72-1	0.558	
	1615	0.363/0.27	8-13		8.0/0.94		0.559	
12/10/97	1535							
<u> </u>	1540	*	Se	e 2	1-6 Sheet			
	1545	4						
17	1550							
12/12/97	1515	0.345/0.26	6.58	7.07	11.9/1.44	-32.0	0.539	ABR
		0.352/0.26			7.5/4.91			100
		9.354/0.26			7.8/0.93			
		0.356/0.27			7.7/0.92	-10.4	0.548	
				N81	34 D GW00:	2		
·		1 4	7,35		_		0.552	
12/12/100	1127	02/0/2	0 -1	~ /6			·	
12/12/9+	1137	0.360/0.27	8.3(7.18	20.6/2-29	<u>-1.7</u>	125.0	SJ
······································		0.357/0.27		7.07		-38.1	0.549	
		2.357/0.27		7.06			0.549	
		0.361/0.27		7.07	8.8/1.01		0.556	
	1158	0.363/0.27	926	7.07	9.1/1.05	-65.3	0.56/	
12/14/9	7 133	50.356/00	27 8.32	7.09	9.0/1.05	-54.3	0:546	17
	1340	0.354/0.2	6 8.61	7.08	8.8/1.02	-56.2	0.544	
	134	5 0.353/0.2	6 8.79	7.08	8.811.02	- 57-4	0.543	
	1350	sample					;	
			7					-
					:			
		-						
								· · · · · · · · · · · · · · · · · · ·
			,	- <u></u>				



Groundwater Monitoring Well SSDS B Test Location MP 5-C

		TOS/SAL Water Level	0(;	10/	1	Sp(nos	
Date	Time	(feet bTOC)		pН	DO (mg/L)	ODD	Purge Rate	
11/2	1726	0.226/012		7.48	28.6/27	ORP	(gpm)	Operator
	371735				29.8/3.3	1 10 2	0.342	FA
11/29/9		7		1 1 29	30.0/338	209	0.352	
170111	1835	0.230/0/1			12.3/1.38			
	1 7000	0.232/0:/7	110.75	1.48	13.6/1.51	-44.2	0.356	
17/1/97	18311	021/214	0 0 0	-	10 16 11	0.4 =		
1-111	1939	0.216/0.16	8.89	7.32	19.6/2.16	-96.9	0.329	72
	1839	0.217/0.11	4.65		13.3/1.52	- 89.4		
	1844	0.219/0.16	9,21	7-50	13.9/1.60	-81.9'	0.338	
12 /2 /2 2	1.72			<u> </u>	•	·	<u> </u>	
12/3/97	1632	0.223/0.16		7-54	12-4/1-43	- 79-9	0.341	55
	1637	0.222/0.16		7-56	13-3/1-53	- 72-2	10.342	
		0.225/0.17		7-58	14.4/1.64	- 60.3	0.347	
	1648	0.225/0.15	2 9.55	7-5-8	14-5/1-65	57-8	0.346	
		-						
12/4/97	2025	0.235/0.17			16.41.87	- 48.1		TZ
	2029	0.235/0.17		7.42	15.8/1.78	-50-9	0.360	
	2033	0.232/0.17	9.81	7.51	15.3/1.74	- 470	0.356	
(a /=ia -		1221						
12/5/97	1524	0.231/0.17	7.97	7,47	11.3/1.34	-104.1	0.348	JP
	1531	0,215/0.17	8,20	7.53	13.1/1,55	-33.1	0.346	
	1538	0,227/0.17	8.43	7.54	14.1/1.66		0.350	
	1548	0,230/0,17	8,25	7.56	15.9/1.37	•	0.353	
:								
12/6/97	1450	0.353/0.26		7-10	13.9/1.70	-75.5	0.523	FA
	1455	0.251/0.19	8.23	7.29	17.7/2.09	-81./	0.382	
	1500	0-234/0-17	8.62	7.38	17.7/2.06	-74.5	0.358	
	1505	0.230/0.17		7.42	18.1/2.12	-75.6	6.353	
	IS10	0 226/017	8.74	7.46	18.6/2-16		0.347	
12/7/97		0.332/0.24	6.25	7.30	15.5/1.91	-89.9	0.478	FA
	1510	0.231/0.17	815	7.48	18.4/2.17 -	-75·0	0-355	
:	1515	0.228/017		7.50	19.2/2.27.	-68.9	0-351	
ž	1520	0.225/0.17	8.14	7.51	19.6/2.31 -	-62.5	0-34-6	
	1525	0 224/017	8.29	· 7.53	20.0/2.35	-57.8	6-345	
<u>:</u>					,			
				V	,	<u> </u>		

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Groundwater Monitoring Well SSOBB Test Location MP S-C

Dec	7**	Water Level	_			!	Purge Rate	
Date (a./o./	Time	(feet bTOC) Tex		Hq	DO (mg/L)	ORP	(gpm)	Operator
12/8/97	1605				17.0/2.13	-808	0.565	FA
	1610	5.242/0.18	8.20	7-36	22.4/2.63	-77-0	0.365	
	1615	0.223/0.16	8-49	7-45	24-9/2-91	-67-4	0.342	
	1620	0 220/016	8-73	7.49	25.7/3.00	-55.9	0.339	
	1625	0.221/0.16	8.52	7-50	26.6/3.//	-502	0.34/	
1- 10/00	· · · · · · · · · · · · · · · · · · ·				,			
12/9/97	1620	0.262/019	8-34	7.32			(gpm) 3 0.565 0.365 0.365 0.365 0.342 0.339 0.34/ 0.364 0.364 0.364 0.366 0.488 0.418 0.412 0.355 0.357 0.357 0.357 0.358 0.358 0.363 0.363	FA
	1625		8.54	7.40		-84-5	0.37/	
	1630	0.234/0.18	8.35	7.45	30.1/353	-77-1	0.364	
	1635	0.233/0.17	8 40	7.48	30.3/3.54	<u>-69.7</u>	0.356	
12/10/97	1535	0 357/0 27	5.34	7 4 6	12.2/2	- 70.6		
1410/11	154î		4.97	7.18		- 75.6 -64.5		FA
		0.273/0.20				-55.1		FA
		0.269/0.20	4.84	7.22		- 54.3		
	,,,,,,,	201,020	1 07		30 3/3.1/	J73	0.412	
12/11/97	1342	0-231/0-17	B-18	7.20	30.7/3-61	95.3	0.354	SJ
		-0.232/0-17			3.0/3.64	94.7		
		0-231/0-17		7-27		94.7		
		8 0.231/0-17			31-2/3-65	94.2		
	1411	0.232/0.17		735	31.5/3.67			
		Sampling			3/30/		: :	•
		-	Nota:	01	RR read	ings and	unusuel	55
12/12/97	1014	0.229/0.16	9.65 7	7-07:	29-2/3.32	137.3	0.355	55
	1020	0.232/0.17	9.76	7.16 2	29.2/3.31	135.6	825.0	
	1031	0.235/0.17	9.77 :	7.32	30.0/3.41	130.2	0.363	
	1035	0.236/0.17	10-12 7	2.36	30.4/3.42	128.3	86263	
1-14-102	N = 0							
12/14/97	1138	0-201/0.15	1.05 6	-89	44.7/2.85	118.4		35
-	1144	0.213/0.16	7.13 7	4-06	25-6/2-95	114-7	0:328	
	1152	0.230/0.17	7.78 7	2.23	25.7/3.07	113.2	0.32.8	
	115+	0.231/017	7.31 7	2.28	24.7/2.98	111.2	0.322	
	1200	Sampling			<u> </u>		<u>. </u>	
-		•					····	
						····-		
 								



Groundwater Monitoring Well SOSB Test Location MP 5-D

	İ	TOS/SAC	· · · · · · · · · · · · · · · · · · ·		: 0//		SOC MS	
		Water Level			6/0/		Purge Rate	
Date	Time	(feet bTOC)	Temp. (F)		DO (mg/L	ORP	(gpm)	Operator
11/27/9	71745	3.220/016		7.28	21.6/2.4	5 -66.9	0.338	
	1755	0 221/016		7.26	21.9/2.4	7-67.8	0.340	
11/29/97		0220/01	610.07	7-33	5.7/06	5 -86.2		1
	1850	0.220/076	1003	7.33	6.0/0.6	-936	0.339	!
		,					1	
12/1/97	1850	0.208/0.15	8.76	7-43	10.7/1.10	7 -71,5	10.317	SJ
	1856	0.226/0.15	- 8.89	7.33	2 3-9/0.4	5-87-9	0.317	
	1900	0.207/0.15	8.66	i	3.5/0.4			
	1906	0.200/0.15	- 9-12	1	3-2/0.3		0.321	
		,			1	1	741	
12/3/97	1657	0.212/0.16	9-21	7-38	3.6/0.42	-74.7	0.325	5 5
	1702	0.2010.6	9.26	7.37	3.1/0-35	- 21.4	0.323	3 0
	1707	0.20/0.16	9-45	7.37	2.9/0.33	- 91-8	0.323	
	1712	Samo	line		/			
	1715	Sample	مــــــــــــــــــــــــــــــــــــ					
	1718	0.214/0.16	9.84	7-38	2-8/0.31	-100.0	0.329	
		,			7			
12/4/97	2039	0.205/0.15	9.48	7.36	6.40.60	-64.9	0.315	7.7
, ,	2042	0-205/0.15	9.51	7-34	13-9/0.4	3-74-1	0-315	
	2045	0-206/0.15	9.46	7.34	13.3/0.3	2-82.4	0-318	
	2049	0.207/0.15	9-41	7.34	3.2/0.37	-86.8	0.319	
i 1								
12/5/91	1555	0,210/0,16	7.93	7,37	14.8/1.75	-77,8	0.323	JP:
	1600	0.206/0.15	8.26	7.35	12.9/1,51	-91,9	0.318	
	1606	0,000/0,15	1.93	7.35	11.3/1.34	-101.1	0.317	
	1615	0.258/015	7.98	7.36	9.8/1.16	-108.7	0.320	
12/4/2-								
12/0/97	1515	0-215/016	7-63	7.48	16.9/1.98		0.325	FA
	1520	6.207/0:15	8.08	7.40	8.2/0.96		0.317	
	1525	0.201/0.15	8 11	7.35	5.9/0.70		0.309	
	1530	0200/015	8.19		54/0.63	-77.5	0.307	
	153 5	0.200/015	814	7.34	5.3/0.63	-998	0307	,
10 lalen	·	200/11/2	0 = =					
12/7/97	1530	0.209/0.15	8.25	· 7·37	6.6/0.77		0-32/	FA
		0.209/015	8-14	7.35	5.4/0.64		0.321	:
	1540	0.208/015	8.17	735	52/062	-783	0.320	
	1545	100 KS S	table					
	1550			VO-				

FIGURE 6-8 DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SOSB Test Location MP SD

Date	~	Water Level	_	_			Purge Rate	
Date / 2 / 2 / 2	Time	(feet bTOC) Ter		Hq	DO (mg/L)		(gpm)	Operator
12/8/97		0.222/0.16		7.43		7-41.3		FA
		0 216/016		7-31		2 -64.4		
	1640			7.30	6.6/0.7	8 -707	0.327	
	1645	5.212/0.16	8.79	7-31	6.8/0.7	7 - 76.9	0.326	
	1650	0.213/016	8.38	7.31	7.1/0.84	F-80.5		
					,		•	
12/9/97	1640	0.237/0.17	6.12	7.49	32.7/3.9	4-59.6	0.352	FA
	1645	0.222/016	8.06	7.31		-72.5		
	1650	0.222/0.16	810	7.30		-84.7		
	1655		7.94	7.31	6.8/0.81		0.339	
		-						
12/10/97	1355	0 224/017	7.74	7.27	83/0.98	-60.9	0.34-6	FA
	1600	0.226/017				-69.6	0349	
	1605	0.225/0.17				-77.4	0.345	
	1610	0.224/017				-806	0.344	
						000	• • • •	
12/11/97	1425	0.234/0.17	7.72	7.17	9.3/1.08	49.6	0.3 60	57
	1430	0.234/0.17	- 8-08	2-13	6:61038	-1·3		2 1
	1433	0.236/0.17					0.362	
		0.234/0.17			6.2/0.73		0.362	
		0.234/0.17				-48.6	0.329	
		0.233/0.17				-55-9		
:		Samplin		7.0	0-70-75	- 75-1	0.328	
	1777	sampan,]				-	
12/12/97	intic	0.245/0.18	9,23	7 13	6-2/0.70	177	0.376	35
19/1-11		0.244/0.18			2:1/0.28	67·7 -7·2	0,376	30
		0.241/0.18			5-0/0.57	-22.1	0.371	
	1102	0.239/0.18	1.42	777	2.1/0.78	-54-7	0:367	
12/14/97	1211	0.240/0.10	9.28	7.11	U/	/ 7 1	A > >	
1 11		0.240/0.18			4.5/0.51	67.1	0.370.	55
	1226	0.240/0-18	077	7.09	3-6/0-41	8.8	0-368	
	1220	0.238/0.18	0-73	+13	3.7/0:43	-27.0	0.365	
	1630	Sampling						
 					<u>.</u>			
···								



MONITORING WELL RECORD

TSMITH AFB PILOT TESTING

Test Location MP |- A Vesidual PPM and old miping!

Vapor Monitoring Well SSO8B

		Vacuum	[i	1	1	Change	Divis
_	!	(inches H20)					:	- Courses	
	Time	1 H20)	Temp. (F)		%CO2	%СН4		PID (ppm)	Operator
11/27/97	1355			20.4	0.0	0.1	0.0	203*	FA
29/A 11/28/97	1405			20.4	0.0	00	0.0		
11/28/97	1600			203	00	0.0	0.0	: 11.4!	
	1605			20.3	00	0.0	0.0	9.5	
12/1/97	1358			20.1	0 - 1	0		16.0	55
	1408			20.2	0-1	O		18.0	
	1411			20.3	0-1	0		18.0	
12/3/9=	7 1026	7		20.4	0	0		1-0	SJ
	1029			20.4	0	O		1-0	<u> </u>
	1032			20.3	0	0		3.2	
	1036	·		20.2	0	O		5.4	
	1								
12/4/97	1640			20-7	0	· O	0	8.2-10.6	25
-//	1640		-	20.7	0	U	0	3-2-10.6	
	1647			20-6	O	0	0	8.2-10-6	
	1654			20-6	0	0	0	3.5-5.9	
								7.7-7.7	
12/5/17	U924			20.5	0	6	0	2.1	55
	10926			20.5	0	0	0	2.1	
	0933			20.4	0	0	0	2-7	
	0936			20.4	0	0	0	3-5	
				•				7 7	
12/6/97	1015			PURGING					FA
	10 20			20 3	0.0	0.0	0.0	2.6	, , ,
	10 25			203	00	00	00	2.4	
17			i			<u> </u>	<u> </u>	- /	
tc/7/97	1030		•	20.4	0.0	00	0-0	0.8	17A
	10 35			20.4	0.0	0.0	0.0	0.5	
	10 40			20.4	0.0	0.0	0.0	0.5	
					J-0		<u> </u>		
12/8/97	1135			20.6	0.0 -	0-0	0.6	0.9	FA
. / 0///	1140			20.5		0.0	0.0	0-9	77
	1145			20.6	0.0	00	00	0.9	
12/9/97		İ		20.2	0.0	0.0	0.0	0.7	FA
· - / '/ 7 · f	12 35			20-2	0.0		0.0	0.7	7/1
!	122			20-2		0.0	0.0		

Vapor Monitoring Well SSOS B Test Location HP/A

i 		Vacuum (inches	T (5)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
Date	Time	H20)	Temp. (F)	20.4	0.0	0.0	0.0	2.4	FA
12/10/97	1145			204		0.0	00	2.4	
	1150			20.4	0:0	0.0	0.0	2.4	
	1155			20 4	00	0 0			
12 /14/22	177.00			20.3	0. 0	0.0	0.0	2.4	×51
12/11/97				2 3	2 C	8 5	0.0	2.4-28	
	1705			20.3	10.0	र र	र ए	2 - 5	
	1 / 1 5								
in lin 197	1914		 	20.3	U	0	0.14	4.3	SJ
12/12/97	0972	<u> </u>		20.3	0	0	0.14	4.6	
	0923			20.2	0	0	0.15		
	0125	<u> </u>							
12 11.19	1028			20.4	Ü	0	0-15	4.0	27
12/14/9	1046			20-4	D	٥_	0.17	4.8	
	1050			20.4	U	.0_	0.17	_	
	10 30		 						
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Vapor Monitoring Well SSO 8 B Test Location MP 1-B

_		Vacuum (inches	İ				1	:	
Date /20	Time	H20)	Temp. (F)	% O2	%CO2	%СН4		PID (ppm)	Operator
11/27/97				20.4	00	00	0.0	133 *	FA
19f#	16 26			20.4	0.0	00	00	120 7	
11/2/8/97	16/0	<u> </u>	!	20.2	:	0.0	0.0	5.7	
	16 15			20.2	0.0	00	00	5.7	
12/1/97	1418			20.3	0.2	0		12.0	55
	1421			20.3	9. 7	0		12.0	
	1424			20.3	0-2	٥		14.0	
12/3/97	1042			20-1	0,0	0.0		36.2	TZ
	1046			20.1	0.0	0,0		3.2	
	i053			20,1	0,0	0.0		1.0-3.2	JP
	1056			20,1	0,0	0,0		3.2	
12/4/92	1716			19.8	0.3	0.	0.87	3.5-5.9	CT 6
1417	1716			19.9	0.3	0	0.90		
	1723			19-8	0:3	0	0.92		
	1737			19.9	0-2	0	0:91	4.3	
12/5/37	0950			19.8	0.0	0	1.5	2-8	उउ
, , ,	0954			19-8	0	0	1-5		
	0959			19-8	٥	0	1-5	3.0	
12/6/97	1025			203	0.0	0.0	0-0	1.6	FA
7,5/1	10 30			20.3	0.0	D· 0	0.0	2.0	
	10 35			20:3	0.0	0.0	00	2.0	
12/7/97	1045			200	0.0	0.0	17	0.5	FA
2////	1050			20.0	0.0	00	1.7	0.3	-/1
	1055			20·D	0.0	0.0	1.7	0.3	
12/8/97	11 55			20.2	0.0	0-0	<i>i.</i> 1	0.6	FA
12/0/17	1200			20.1	0.0	0.0	/·/ 	0.9	177
	1205			20.1			1-1	0.9	· · · · · · · · · · · · · · · · · · ·
12 /9/97	1240			20.0	0.0	0.0	1.1	0.3	CA
, , , , , , ,	1245			20.0	0.0	0.0	1.0	0.7	FA



Vapor Monitoring Well SE	7 Test Location	MP/B
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Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
12/10/02	12 40 !			20.4	0.0	00	0.30	0.0	FA
1410/97	12 45			20.4	0-0	00	0.42	0-0	
	1250	-		20.4	0.0	0.0	0.78	0-0	
	12 55			20 4	0.0	0.0	0-85	0.0	
	10 00								
12 11 11	1727			20.0	6.0	G. C	1.00	1.5	75:
	1734			19.9	6.0	0.0	1.00	1.9	
	1740			19.4	Q	6.0	0.98	1.5-1.9	
	-\								
12/1497	0936			19.9	0	0	0.62	3.8	TZ
1-7.71	0940			19-9	0	0	0.62	4.3	
	0945			19.9	0	0	0.61	3.8	<u> </u>
12/14/97	1104			19.9	O	0	0.18		TZ
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1109			19.9	Ü	. 0	0.17		
	11114			19-8	0	0	0.17	2-5	
								<u> </u>	
								<u> </u>	
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-8%

Vapor Monitoring Well SC-08 B Test Location MP Z-A

Date	Time	Vacuum (inches	T (T)	m 00	~ ~ ~ ~			i	;
11/27/97		H20)	Temp. (F)	% O2	%CO2	%CH4	,	PID (ppm)	
11/27/97			<u> </u>	20.4	0.0	00	0.0	116.0	FA
11/20/07	14 40			20.4	0.0	00	0.0	109.03	
71/24/7/	16 20			20.2	0.0	0.0	0.0	3.8	!
11/20/00	16.25			202	0.0	00	0.0	5.7	
11/29/97				20'0	0.0	0.0	0.0	9.5	i
	1720			20.0	0.0	00	0.0	7.6	
12/1/97	1429			20.6	0.2	0	<u>.</u>	14.0	72
	1432			20.6	0-2	0		10-0	
	1435			20.6	0:2	0		10.0	
. (
12/3/97	1101			20,1	0.0	0,0		1.0-3.2	JP
	1105			20:1	6.0	ao		1.0-3.2	
	1111			20.1	5.6	0,0		10-32	
								4	
12/4/97	1745			20.5	O	0	0		55
1 ,	1749			20.5	0	0	0	5	
	1753			20+5	0	0	0	4.3 5.1 5.3	
12/5/97	1005			20.3	0	0	D	3-5	55
1 1	1008			20.1	0	0	0	4-5	
	1016			20-2	0	0	0	4-6	
1-1: (00)						·	<u>:</u>		
12/0/97				20.4	00	0-0	0.08	1.7	FA
	10 50			20.4	00	0.0	0.07	1.3	
	1055			20:5	00	0.0	0.00	1.1	
12/7/97	11 10			20.2	0.0	00	0.0	0./	· · · · · · · · · · · · · · · · · · ·
	1/15			20.2	0.0	0.0	0.0	0:3	<u></u>
	1120			20.2	0.0	0.0	0.0	0.1	
12/0/02									
12/8/97	1205			20.4	0.0	00	0.0	0.6	FA
	1210			20.4	0.0	0.0	0.0 %	0.6	
	12.15			20-4	00	0.0	0.0	0.6	-
12/9/97	1250			20.2	0-0	0.0	0.0	0.3	FA
-1 1 1	1255								177
		1		20.2	6.0	00	00	0.3	

18

Vapor Monitoring Well SCOBB Test Location MP2A

		Vacuum (inches							
Date	Time	H20)	Temp. (F)		%CO2	1		PID (ppm)	
12/10/97	/3 CO			20.6	0.0	0.0	0-0	0.0	FA
	13 os			206	0.0	00	00	0.0	
	1310			20.6	00	00	0.0	0.0	
						<u> </u>	:	1.0	
12/11/97	1749			20.1	0.8	Q · O	0.02	2.2	AZA SJ
	1756			20-1	0	0	0	1-9	SJ
	18-00			20-t	D	0	0	2-4	
								\	
12/12/97	1012			20.2	0	0	0.P1	1.9	55
12/12/97	1016			20.2	0	0	0.01	1.9-2-4	
	1019			20-2	O	0	0-01	1-9-2.4	
							i		
12/14/97	1132			20.1	Õ	0	0.02	2-5	ζŢ
1 / / /	1132			20.1	0	0	0-02	2-5	
	1139			20.1	0	0	0-01		
				1					
									
				:					
 								-	
	· ·			:					
		•			-				
		.,	[•]	

18.

Vapor Monitoring Well ______SS-08B ____ Test Location _____MP 2-B

Date	: : : Time	Vacuum (inches	T (T)	<i>a</i> 00	W C C C				1
11/27	1450	H20)	Temp. (F)		%CO2	%CH4	1	PID (ppm)	Operator
				20.4	0.0	0.0	0.0	101.7	FA
4/29/97	1620			20.7	100	00	00		
11/20/00	1625		<u> </u>	20.2	0.0	0.0			
11/29/97				20.0	0.0	0.0	0.0	7.6	ļ
	1725			20.0	0.0	00	0.0	9.5	
12/1/97	1440			20-3	0.2	0		12.0	55
	1443			20.3	0.7	0		10.0	
	1446			20.1	0.2	0		8-0	
	1449	_		20.1	0.2	0		6.0	
				•				8.0	
12/3/97	1114			20,0	0,1	0.0		5.4	1 P
	SIZj			20,0	C1)	0.0		1.0-3.2	
	1124			20,1	0.1	0,0		1.0	
12/4/97	1805			20.4	0.1	0	U	4.2	55
	1807			20-4	0-1	0	1		
	1812			20-4	0-1	0	0	3-8 3-9	
		·			· · · · · · · · · · · · · · · · · · ·				
12/5/97				20.0	0	0	0	5.1	57
/	1026			20.0	0	0	0	5.4	
	1030			20.0	0	0	0	5.2	
12/6/97	1100			Z0.5	<i>ی</i>	: 3.0		()	FB
12/0/1/	1134							0,9-41	-27
	1136			20.b 20.7	0.0	0,0	0.0	0.9	
	1120	-		20, /	0.0	0.0	0,5	0,8	
12/7/97	1235			204	0.0	0.0	0.0	.0.5	FA
	1240			20.4	00	0.0	0.0	0.5	
	12 45			20.4	0.0	0.0	0.0	0.5	
12/8/97	(2.25			74 -		0.0	0.0	2.0	C1
12/0/74	. 1			20.4	0.0	0.0	0.0.	0.9	FA
	12 25			20-4	0.0	*00	00	09	
	12.30			20-4	00	0.0	0.0	0.6	
12/9/97	1255			20.2	0.0	. C.O	00	0.3	FA
14/1/77				20.2	6:0	0.0	6.0	0.7	
	1300								

18.

Vapor Monitoring Well SSOBB Test Location HP 2B

		Vacuum (inches		~ ~~	<i>~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ </i>	W CYY4			
Date	Time	H20)	Temp. (F)		%CO2	1		PID (ppm)	
12/10/97				20.6	0.0	0.0	0-0	0.0	FA
· · · · · · · · · · · · · · · · · · ·	13/5			20.6	0.0	0.0	0.0	0.0	
	1320			206	0.0	00	0.0	0.0	
12/11/9	1 1812			20.0	0	0	0	2-4	SJ
1 11	1812			20.0	0	0	0	1.5	
	1821			20.0	0	0	0	1-9	
12/12/97	1029			19-9	0.1	0=	0.07	2.4	37
1.5(17	1032			19-9	0-1	0	0.06	2-4	
	1036			19.9	0-1	0	0.06		
	1036			19-9	Ó	0	0.05		
12/14/97				20.0	0	0	0.04	0.3	TZ
1717/17	1151			20-0	0	0	0,02	1.1	
	1156			20.0	0	∂	0.05		
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			7						
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Vapor Monitoring Well SSOSB Test Location MP-3A

		Vacuum (inches			i 	!			
Date	Time	H20)	Temp. (F)		%CO2	%CH4		PID (ppm)	
11/27/97				20.4	0.0	0.0	0.0	109.2	
11/29/97			-	19.9	0.1	0.0	0.0	13.3	
	1735			19.8	0.1	0.0	0.0	11.4	
12/1/97	1454			19.8	0.2	0		10.0	JJ
	1457			19.8	0.2	0		10.0	
	1502			19-8	0.2	0		10.0	
12/3/97	//31			20.3	0	0		1.0-3.2	22
	1135			203	0	0		1-0	
	1145			20.5	٥	0		1-0	
/1: 10-	.02.0								457
12/4/97				20.5	0	0	0	7-9	55
<u> </u>	1823			20.5	0	Ü	0	5.6	
	1826			20.5	0	.0	0	3 , 6	
12/5/92	1037			20.1	0	0	0	4.7	SJ
13/11	1040			20.1	0	0	0	5-3	3 -
	1043			20.1	0	0	0	5-8	
		· · · · · · · · · · · · · · · · · · ·							
12/6/97	1155			20.7	0.0	0.0	0,0	0.4	JP
	1200			20.8	0.0	0.0	0.0	0-6	
	1205			20-8	0.0	0.0	2.6	0-6	
12/7/97	1245			20.2	D. D	0.0	0.0	0.3	FA
	1250 .			20.2	O·0	0.0	0.0	23	
	1255			202	00	0.0	0.0	0.3	
- 10/00		·		_				•	
12/8/97				20.5	6.0	0.0	00	0.9	FA
	12 40			20-5	0.0	0.0	0.0	0-9	
	1245			20:5	00	0.0	0.0	0.9	
12/9/97	1305			20.2	0-0	0.0	0.0	0-3	Î A
1-11117	1303				0.0	0.0	0.0	0.3	,,,
	7510			20.3				0 3	
							<u> </u>		



Vapor Monitoring Well	S508 B	Test Location	MP 3-A	

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97				20.7	00	0.0	00	0.0	FA
12/1-/-	1330			20.8	00	0.0	0.0	0.0	
	1335		1	20-8	5.0	00	0.0	0.0	
	!					i 	!		
12/11/93	1831			2010	0	0	0	1.1	ऽ उ
1 1 1	1835			20.1	D	0	0	2.4	
	1838			20.1	0	0	0	1.9	
12/12/92	1043			19.9	0	0	0	1.9-1.4	27
1. 1. 167	1047			20.1	Ü	0		1.9-1-4	
	1050	· · · · · · · · · · · · · · · · · · ·		20-1	0	0	0	1.9-1.4	
	1053			20-1	0	0	0	1-9-1-4	
10 14 /0 0	12 2 3						0.42		(>
1414147	1209			20-1	0	0	0-03	1.1	57
	1213			20-1	<u> </u>	0	0.01	1.8-2-5	
	1218				0	0	0	1.8	
<u> </u>	1226			2011	0		0	1-8	
	÷								
<u> </u>									
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Vapor Monitoring Well SSO8B Test Location MP-3B

Date	Time	Vacuum (inches	T (F)	<i>m</i> .03	# GO2	~ ~~~			
11/27/97	+	H20)	Temp. (F)		%CO2 <i>O</i> ·○	%CH4		PID (ppm)	
11/29/97		_		20.3			0.0	-98.0	1-1-1
11/21/77	1745				01	0.0	00	7.6	-6
	1770		<u> </u>	19.9	0.1	0.0	0.0	7.6	
12/1/97	1510			20.1	<i>ن</i> - ک	0		12-0	TZ
	1513			20·i	0 · 2_	Ü		8-0	
	1516			20-1	0.2	0		6.0	
	1518			20.1	0.2	0		6-0	
12/3/97	1149			20.5	0	٥		1.0	72
1-7/11	1157			20-5	c	0		1.0	
	1207			20.5	0	0		1.0	
12/4/37	1076			20 5		A		7 1	C +
- <i> 1 17</i>	1836			20.5	0	0	0	7.9	55
	1842		<u> </u>	20.5	0	0	0	7.4 6.2 5.7	
				20. 3				3 - 7	
12/5/97	1048			20.1	0	0	0	5.4	55
,	1051			20.1	Ð	0	0	5.4	
	1055			20.1	0	0	0	6.1	
12/6/97	12 05			20.8	0.0	0.0	0.0	0-6	FA
	12/0		:	20.7	0.0	0.0	0.0	0.6	
	12 15			20.7	0.0	00	0.0	0-6	
12/7/97	12 55			20.1	0.0	0.0	00/	0.3	FA
7,7,7	13 00			20.1	0.0	00	0.0	0.3	
	1305			20.1	0.0	0-0	0.0	0.3	
12/0/02	126:			7		4.5			-CA
12/8/97	1255			20.4	0.0	0.0	0.0	0.6	FA
	1300			20.4	00	60	0.0	0.6	
	/300			20.5	0.0	₽. ₽	9.9	0.5	ASIL
12/9/97	1310			203	0.0	0.0	0-0	0-3	FA
	1315		:	20.3	0.0	0.0	0.0	0.3	-
	j320			20.4	0.0	0.0	00	0.3	

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Vapor Monitoring Well SOEB	Test Location
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	İ	Vacuum (inches	:	i		! .			
Date	Time		Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1340			20-8	0.0	0.0	0-0	00	FA
	1345			20.8	00	0.0	0.0	0.0	
	1350			20.8	5.0	0.0	0.0	0.0	
	Í			•		!			
12/11/97	1851 1854 1858		!	20.0	0	0	0	1-5	T2
, ,	1854			20-0	ð_	0	0	(-1	
	1858		<u> </u>	20.0	0	0	ರಿ	1.5	
	1900			20.0	Ø	. 0	0	1-5	
12/12/97	1101			20.0	Ó	0		1.9-1.4	SJ
,	1105	,		20.0	0	0	0.05	1-9-1-4	
	1109			2-0-0	0	0		1-9-1-4	-
	1112			20-0	٥	0	0-05	1-9-1-4	
12/14/97	1245			20.1	0	0	+++0.0	3 1-1	27
				20-1	0	0	0.03	1.8	
	1254	 		20.1	0	0	0.04	1.8	
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Vapor Monitoring Well SCO8B Test Location MP-4A

		Vacuum (inches						! !	
Date	Time	H20)	Temp. (F)		%CO2	%CH4		PID (ppm)	
11/27/97	1515		-	20.4	0.0	00	0.0	98.00	FA
11/20/47	1620		_	20.2	0.0	0.0	0.0	3.8	
	10 25		_	20.2	00	0.0	00	5.7	
12/1/97	1525			20.0	0.2	O		10.0	55
•	1528			20-0	0-2	0		8.0	
	1532			20.1	0.2	0		8.0	
	_								
12/3/97	1218			20.5	0	0		3.2	55
'	1225			20.5	00	0		1.0	
	1229			20.5	0	0		1.0	
12/11/0-	1909			- /					0 7-
19497				20.6	0	0	O	4.3	SJ
	1913			20,6			0	4.4	
	1916			2006	0	0		7-4	
12/5/97	1104			20.3	Ð	0	0	2.1	55
/ /	1107			20-3	0	0	0	1.9	
	1112			20.4	0	0	0	1.7	
. 1: 1									
12/6/97				20.7	0.0	0.0	0.0	0.4	FA
!	1200			20.7	0.0	0.0	0.0	0.6	
e'	13 05			20.7	0.0	0.0	06	0.4	
12/7/97	12 15			20.2	00	0.0	⊅ · ()	0:3	IA
1271717	13 20			20.2	0.0	00	0.0	0.3	
	13 25			20.2	0.0	0.0	-00	0.3	
					- 0	<u> </u>			
12/8/97	1307			20.5	0.0	0.0	0.0	0.6	ASR
	1311			20.5	0.0	0.0	0.0	0.6	
	1315			20.5	0.0	0.0	0.0	0.6	
	:								
12/9/97	1325			20.4	0.0	00	۵۰۵	0.3-0.7	ASP
	i330			20.4	0.0	0.0	0.0	0.3-0.7	
	1345			20.3	0.0	0.0	0.0	0.3-0.7	
		<u> </u>							

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Vapor Monitoring Well _	SSOBB	Test Location	MP4-A
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;		Vacuum (inches	,			<u> </u>			
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1355		1	20.8	0.0	0.0	0.0	0.0	FA
	1400 1405			20.8	0.0	0.5	0,0	0.0	
	1405		:	20.8	0.0	0.0	0.0	0.0	
			!			!			
12/11/93	1905			20.1	0	0	0	0.6	5.5
170	1908			20.1	0	0	O	(- (
	1919			2011	O	0	0	1.1	
								Ü	
12/12/97	1128			20.2	D	0	0.01	1.4-1.9	TZ
	1133			20.2	O	0	0.01	1.4	
	1128 1133 1136			20.2	0	0	0	1.4	
	1140			20.2	0	0	0	1.4	
								,	
12/14/97	1301			20.1	D	O	0.03	(-1	21
1-64	1307			20-1	0	0	0-04	1.6	
	1310			20.1	0	0	0.05	(-1	
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					<u> , 188-</u>				
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Vapor Monitoring Well ______ CSOS LB _____ Test Location _ MP - 4 LB

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%СН4	<i>(t)</i> 11-11	PMD (
11/27/97		-	Temp. (r)	204	0.10	0.D	O O	PID (ppm) 94.6	
11/01/11	1540	_	<u> </u>	20.4	0.10	0.0	00	91.0 *	
11/29/97		٠		198	0.10	00	0.0	7.6	:
	1645		 	19.8	0.10	0.0	0.0	9.5	!
			·					 / =	
12/1/97	1540			20.3	0.2	O		6.0	SJ
	1543			20.3	0.2	0		8.0	
	1546			20-2	0.2	0		8.0	
12/3/97	1233			20.4	0	0		1.0	SJ
	1236			20.4	O	0		1-0	
	1239			20-4	0	0		1-0	
12/4/97	-1919			20.6	0	0	0	4.9	55
	1922			20.6	0	. 0	0	4-4	
	1925			20-6	0	0	0	3,8	
12/5/00	1,1-7			7					
145/77	11[7			20.5	0	0	0	1-3	SJ
	1121				0	0	0	1.3	
	1129			20.6	O	0	0	1,5	
12/6/97	12 10	<u> </u>		20.7	0.0	0-0	0.0	0.6	FA
12/0/11	13 25			20.7	0.0	0.0	00	0.6	7/1
	13 30			20.7	0.0	0.0	0.0	0-4	
				LU T		00			·
12/7/97	13 30			20.2	0.0	0.0	0.0	0.3	FA
	13 35			20.3	0.0	0.0	0-0	0-3	
	13 40			20.3	0.0	0.0	0.0	.0.3	
12/8/97	13 18			20.5	0.0	0.0	0.0	0.3-0.6	ASK
	13 22			20.6	0.0	0.0	0.0	0.3-0.6	
	13 27			20.6	0.0	0.0	0.0	0.3-0.6	
12/9/97	1347			20.4	0.0	0.0	0.0	0.3	ASR
	1352			20.4	0.0	0.0	0.0	0.3	
	1356			.70.4	0.0	0-0	0.0	0.3	



Vapor Monitoring Well SSOBB Test Location MP 4-R

	m:	Vacuum (inches	 	g, 02	a cos	%СН4	% Walium	PID (ppm)	Onomaton
Date	Time	H20)	Temp. (F)		%CO2	0.0	0.0	PID (ppm)	Ask
12/10/97				20.7	0.0	0.0	0.0	0.0	NSK
	1415		<u> </u>		0.0		i	2.0	
	1420		!	20.8	0.0	2.0	Ð. Ø	0.0	
12/11/97	1926			20-1	0	0	0	1-1	SJ
To the	1926 1929 1937			20.1	0	0	0	1-1	
	1927		İ	20.0	0	0	0	0.2	
141497	1206			20.1	0	0	0.05	1.9	SJ
	1210			20.2	0	D	0.05	2.4	
	1214			20.2	0	<i>ට</i>	0.05	2.4	
	1221			20.7	0	0	0.05	1-9	
12/14/9=	1337			20-0	0	0	0.06	1.1	77
1	1340			20.0	0	. 0	0.07	1-1	
	1344			20.0	0	0	0.07	0.3	
	1353			2C-C	0	0	0.10	1.(
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Vapor Monitoring Well _____SO8 B

Test Location MP. 5A

		Vacuum (inches		:				!	· i
Date	Time	H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
1/27/97				204	0.0	0.0	0.0	94.6 %	FA
	1650			20.3	0.0	0.0	0.0	83.98	3.9
11/29/97	1755			20.0	00	0.0	0.0	20.9	:
	1800			20.0	0.0	0.0	0.0	13:3	f
	1				·				
12/1/97	1556			20.7	0	0		12.0	SJ
	1559			20.7	0	0		10.0	
	1604	e en wêreya		20.8	٥	0		6-0	
	7	-							
12/3/97	1404			20.2	0	0		21.0	
	1407			20.2	0	0		25.0	
	1412			20.2	0	0			
	1419	0 17		20.2	0	0		9.8	
								7,0	
12/4/97	1934			20.6	O	0	.0	4.5	TZ
	1937			20.6	٥	0	0	3.6	
	1944			20.6	0	0	0	2.5	
	1952			20:6	_ 0	0	0	3.2	
12/5/97				20-7	0	0	0	1.3	27
	1133			20.7	0	0	0	0.9	
	1137			20.7	0	0	0	0.9	
	1141			20.8	0	0	0	0.9	JP.
					<u></u>				
12/6/97	1340			20:7	0.0	0.0	0.0	0.8	fΑ
	13:45	~	<u> </u>	20.7	00	0.0	0.0	0.8	
-	1350			20-7	0.0	0.0	00	0.6	
1. /. /									
12/7/97				20.3	0.0	0.0	0.0	0.5	FA
	1350			20.3	0.0	0.0	0.0	0.5	
	1355			20.3	0.0	0.0	0.0	0.3	
	1 400)								
12/8/93	1337			20.6	0.0	0.0	0.0	0.6	ASR
	1341			20.6	0.0	0.0	0.0	0.6	
	1346			20.6	0.0	0.0	0.0	0.6	
12/9/97	1400			20.4	0.0	0.0	0.0	0.3	FA
L. i	1405	<u> </u>		20.4	0.0	0.0	0.0	0.3	

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Vapor Monitoring Well SSOSB Test Location MP-SA

		Vacuum (inches			~ ~ ~ ~				
Date	Time	H20)	Temp. (F)	1	%CO2	%CH4		PID (ppm)	
12/10/97	14 23			20.8	0.0	0.0	0.0	0.0	13R
	1430			20.6	0.0	00	0.0	0.0	
	14 35			208	0.0	0-0	0.0	0.0	
12/11/92	- 1944			20.0	0	0	0	0.6	57
1 6	- 1944 1947 1950 1953			20.0	0	0	0	1-5	
	1900			20.0	D	0	0	1-9	
	19-3			20.0	<u> </u>	0	0	1-9	
	175 >			20.0	<u></u>			(-)	
12/12/97	1248			20.2	0	0	0	0.9	TZ
/ /	1255			20-2	0	0	ပ	0.9	
	1259	•		20.2	ی	0	0	0-9	
	1304			20.2	0	0	0	0.9	
in 14.120	12.50							7 7	0.7-
12/14/97	1359			20-1	0	0	0	3.3	2 5
	1404			20-0	. 0	0	0	2.5-1.8	
	1408			20.0		Ð	0	1.8	
	1421			20.0	ව	8	0	1.8	
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Vapor Monitoring Well _____SSOBB Test Location ____MP-5B

	:	Vacuum (inches	i			1		; ; [;
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1630			20.3	0.0	0.0	0.0	76.7 *	FA
, ,	1636			20.3	00	0.0	0.0	83.9	
11/29/97	180 5 1810		_	200	0.0	0.0	00	7-6	
, , , ,	1810		_	20.0	0.0	00	0.0	7-6 19.0	:
12/1/97				20.9	0-2	0		4-0	5.7
/ .	1700			20.9	0-2	Ø		2.0	
	17-03			20-8	0.2	0		2.0	
12/3/97	1422			20.0	0.0	0.0		34.0	ASR
, ,	1426			19.8	Q. j	0.0		34.0 34.8	a
	1430			20.j	0.0	000		16.4	
	1437			20. i	0.0	0.0		7.6	
	1440			20,1	0,0	0.0		5.4	
12/4/97	2008			20.7	0	0	0	1.5	55
1 .	2014			20-7	0	0	Ö	1-7	
	2014			20-7	O	0	0	2.4	
	2019			20.7	0	0	0	1.5	
				2.2					<u> </u>
12/5/97	1153			20,3	0	0	0	0,8	JP
	1157			20.8	0	0	0	0.9	
	1204			20.8	0	0:	0	0,6	
	1207			20.8	0	0	0	0,6	
12/1/01	10.00						_	2.5	<i>C</i> 1
12/6/97				20.7	0.0	0-0	0.0	0.0	FA
	1400			20.7	0-0	00	0.0	0.6	
	1405			20.7	0.0	0.0	0.0	0.6	
12/7/97	1/4.00			255	0.0	^ ^	0.0	0.2	
1617177	1405			20.5	0.0	0.0	0.0	0.3	FA
	1415			20.5	0.0	0.0	0.0	0.3	
	1713	_		205	0.0	0.0	0.0	0.3	
12/5/97	1349			20.6	0.0	0.0	0.0	0.36	A .
14177				20.6	0.0				ABR
	1400			20.7	00	0:0	0.0	0.3	FA
12/7/97	14 15				0.0	0.0	0.0	0.3	-77
12/1/17	(כי יי			20.4	00	00		ا د د	

1420

20·4 **MXE**

20 0-0

0.0

0.3

Vapor Monitoring Well	SCO8B	Test Location	MPSB	

		Vacuum (inches				!			
Date	Time	H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	
12/10/97	1445			20.8	0.0	0.0	0.0	0-0	A
	1450			20.8	00	00	0.0	0.0	
	1455	,		20.8	0.0	0.0	0.0	0.0	
						<u> </u>			
12/11/97	2006			20.0	0	0	0	1-5	SJ
1	2006			19-9	0	۵	0	1-9	
	2010			19-9	0	0	0	2.4	
				`					
12/12/97	1314			20.0	0	0	0	0.4	27
	1317			20.0	0	0	0	0.9	
	1321			20-0	0	0	0	0.9	
	1326	-		20-0	0	0	O	0-9	
12/14/97	1429			19-9	0	0	0	1-1-1-8	72
	1434			19-9	0	0	0	1-1-1-8	
	1446			19-9	0	0	0	1-1-1-8	
	1446			19-9	0	0	0	1-1-1-8	
				,					
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			-						
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	1						L	<u>-</u>	

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Vapor Monitoring Well SS 08-B Test Location MP-6

		Vacuum (inches			· .	l	!		
Date	Time	H20)	Temp. (F)	% O2	%CO2	%СН4	% Helium	PID (ppm)	Operator
11/29/97	1830			20-0	0.0	00	00	11.4	FA
	1835			20.1	0.0	D.D	0.0	11.4	
12/1/97	-1713			20.8	0.2	0		2-0	SJ
	1717			20.6	0.2	0		2.0	
	1722			20.6	0-2	0		2-0	
. ,					1				
12/6/97	1405			20.7	0.0	0.0	0.0	22.2	FA
	1410			20.7	0.0	0.0	0.0	18.9	
	1415			20.7	00	0.0	0.0	16.5	

12/7/97				20.5	0.0	0.0	0.0	7.5	FA
	1425			20.5	D. O	0.0	0.0	7.2	
	1430			20.6	0.0	0.0	0-0	6-7	
							·		
12/8/97				20.7	0.0	00	00	4.5	FA
	1415			207	0.0	0.0	0.0	4.5	
	1420			20:7	0.0	0.0	00	45	
in 10/00	((
12/9/97	1425			20.4	0.0	00	0-0	3.5	FA
	1430	· · · · · · · · · · · · · · · · · · ·		20.5	00	0.0	0.0	3.5	
	F4 35			20.5	0.0	0.0	0.0	3.5	
1. / (0.3)	1.00						-		
12/10/47				20 8	0.0	0.0	0.0	2-4	FA
-	1505			20.7	0.0	6·0	0.0	2.4	
	1510			20.7	00	0.0	0.0	2.4	-
12/11/9-							2		
12/11/97	- W16			20.0	0	0	0	1.1	55
	2019			19.8	0	0	0	1-5	
	4022			20.0	0	٥	0	1.1	
12/12/97	- 13 33			20.1	0	0	0.06	2.	TZ
1 1 1 1 1 1	1338			20.1	0	0	0.06	2.4	77
				20-1	0	0	0.07		
	1343				0		0.07		
12/11/197	111+			20-0		0			<u> </u>
1-717/14	1502			19.9	0	0	0.07	4.8-5.5	77
	17 (1			20.2	0	0	0.08	4-8-5-5	

Vapor Monitoring Well

SYSTEM Carbon Out (2) Test Location 5508B

		Vacuum							
		(inches	T (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
Date	Time	H20)	Temp. (F)	20-6	0	0	0.18	0.4	5.7
12/5/97		<u> </u>	-	20-6	0	0	0.19	0.2	
,	1317			20.5	0	0	0.20	0.4	
	1323			20.5	0	0	0.18	0.7	JP
	1340	1	<u> </u>	20,5			10:		
1.100	1 . 10		 	20.6	0.0	0.0	0-18	0.9	FA
12/6/97	1440		1	20.7	0.0	0.0	0.17	0.9	
	1445		_	20.7	0.0	0.0	0.18	0.9	
	1450			20 ,					
10/0/07	100			20.7	0.0	0.0	0.27	0.3	FA
12/7/97	15 05 15 05		+	20.7	00	0.0	0.25	0-3	
	15 10			20.7	6.0	0.0	0.26	0.3	
	1310								
12/8/97	1435	 	†	20.7	0.0	0.0	0.12	0-6-0:	3 FA
148177	1440	†		20.7	0.0	0:0	0.13	6.6-0-	3
	1445	 		20.7	0.0	0.0	0.13	0-6-0	<u> </u>
<u> </u>	1 1775	 							
12/9/97	1450			20-6	0.0	00	0.12	0.3	FA
19111	1455			20-6	0.0	0.0	013	0.3	
	1500	 		20.6	00	0.0	5/2	0.3	
							<u> </u>		51
12/10/97	1/5 25			20.7	0.0	00	0.12	0.0	FA
12/10/79	1540	 		20.7	00	0.0	0.12	0.0	
	1545			20.8	0.0	0.0	0.12	0.0	
								<u> </u>	
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	1.								<u> </u>
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Vapor Monitoring Well System Out (2) Test Location 5508B

		Vacuum (inches		% O2	%CO2	%CH4	% Halfum	PID (ppm)	Operator
Date	Time	H20)	Temp. (F)	20.6	0	0	0.19	0.9	JP
12/5/97				20.6	0	0	0.18	0.8	i
	1220		-	20.7	0	0	0.18	0.6	27
	1229			20-7	0	0	0.17	0.6	
	1237		 						
12/1/01	11 05		-	20.6	00	0-0	0.16	1.9	FA
12/0/97	14 25		<u> </u>		0.0	0.0	0.18	1.5	1
	1430			20.6	0.0	60	0.18	1.1	
	1455			20.6			0,0		i
1- 1-10-1	1440			20.6	0.0	0.0	0.26	2.8	FA
12/7/17	1445		-	20.6	0.0	0.0	0.26	0-5	
	1450		<u> </u>	20.6	0.0	0.0	0.25	0.5	
	1730			00.6		-	 		
12/0/00	1425						 		
12/8/97	1430			20.7	0.0	0.0	0-14	1.2	FA
	1435			20.7	0.0	0.0	013	0.6	
	1437		<u> </u>	20.7	0.0	0.0	0.13	0.6	
12/9/97	1440			20.5	0.0	0.0	0.12	0.7	FA
12/4/17	1445			20.5	0.0	0.0	0.12	0-3	
	1450			20.5	0.0	0.0	0.11	0.3	
	1770								
12/10/97	15+015			207	0.0	0.0	0//	0.0	FA
1410/17	1520	:		20.7	0.0	0.0	0.10	0.0	
	1520 1525			20.7	00	0:0	0.11	0.0	
	15201525			201					1
				<u> </u>	<u> </u>				
								·	
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	 			<u> </u>		<u> </u>			
									
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APPENDIX G
PROJECT PHOTOGRAPHS



Photo 1: Site SS-06 Well Drilling (Benzene Plant and Huron Avenue in the Background)

10-28-97

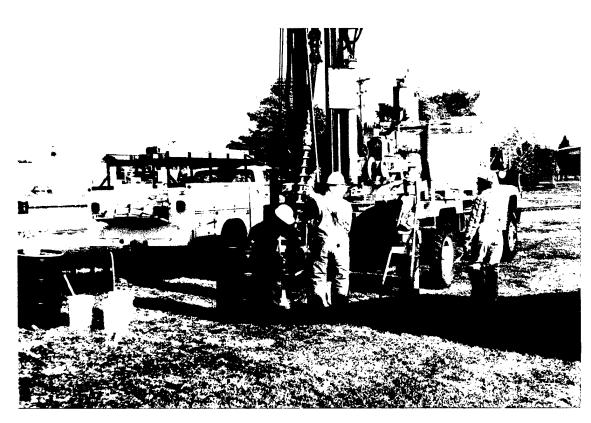


Photo 2: SPT, Split-Spoon-Sampling and Lithology Logging at Sparge Well Drilling, Site SS-06

10-28-97



Photo 3: Excavation for Power Supply Connection from 11-06-97

Benzene Plant, Microtunneling Underneath Railroad

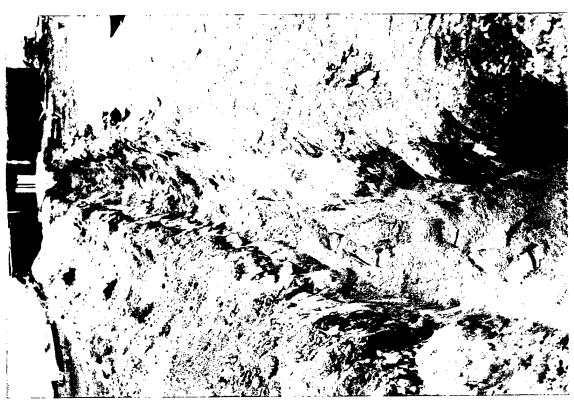


Photo 4: Excavation from Power Supply to Site SS-06 11-06-97



Photo 5: Hand Digging for Power Supply Near Benzene Plant Building (#397)

11-06-97



Photo 6: Monitoring Well Cluster Drilling by 9 1/4" ID HSA and Electrical Switch Board Connection at Site SS-06

11-07-97

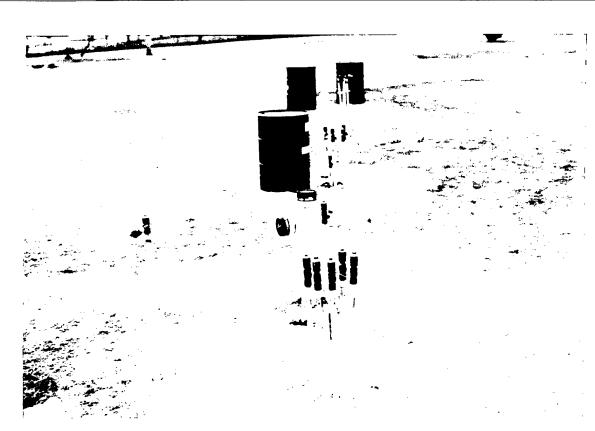


Photo 7: AS Well, SVE Well and Monitoring Wells Site SS-06 (Background Huron Ave.)

11-10-97

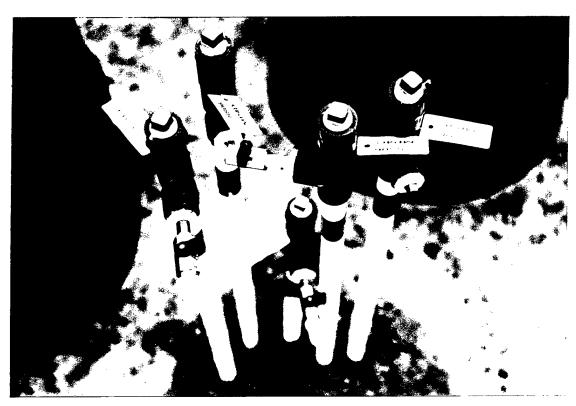


Photo 8: Cluster of Monitoring Wells (Site SS-06, MP4A through MP4E)

11-10-97



Photo 9: Site SS-06 SVE/Sparge Trailer, He and SF₆ Gas Cylinders, Carbon Canister Set-Up

11-14-97

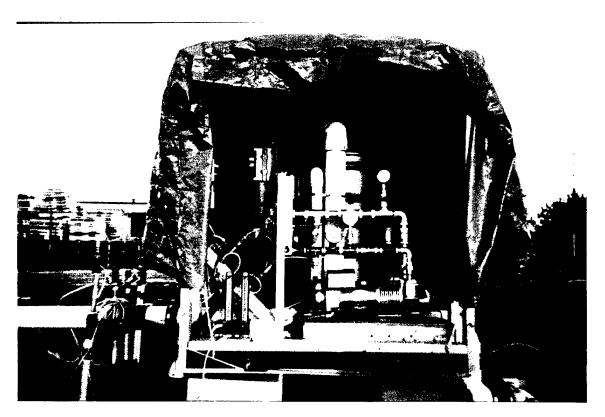


Photo 10: Sparge System in Operation at Site SS-06

11-20-97



Photo 11: Carbon Off-Gas Treatment System





Photo 12: Carbon Changeout and Helium and Sulfur Hexafluoride Cylinders with Heat Pad

11-15-97



Photo 13: Summa Canister Vapor Sampling from Extraction Well (with Field Duplicate)

11-18-97



Photo 14: Drill Cuttings from SS-06 Well Installation

11-14-97



Photo 15: Drilling and Well Installation at Site SS-08A, SVE and Vapor Monitoring Wells

11-11-97



Photo 16: SVE and Vapor Monitoring Wells and Soil Cuttings at Site SS-08A

11-11-97



Photo 17: Vapor Monitoring Wells, Soil Cuttings, Bentonite 11-11-97 Chip, and Fencing at Site SS-08A

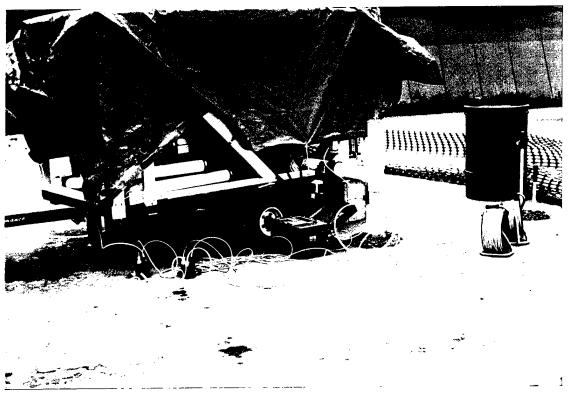


Photo 18: Transient SVE Test Using Hermit 2000 Data Logger and Two Transducers 11-26-97

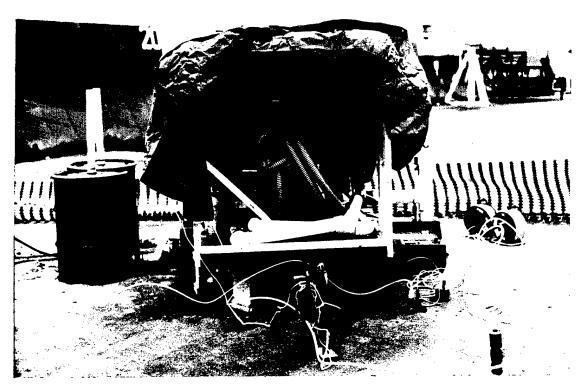


Photo 19: Soil Vapor Extraction Test at Site SS-08A



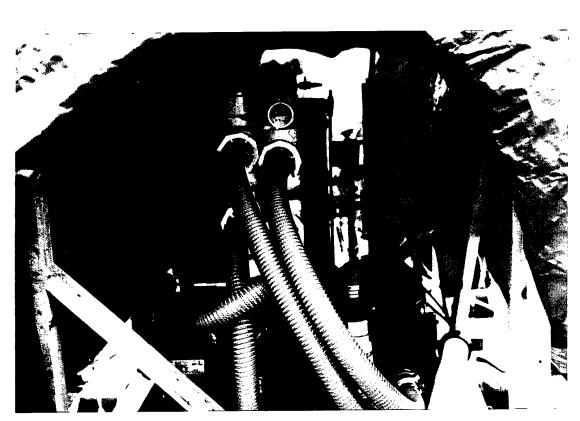


Photo 20: Vapor Extraction Header, Vacuum Blower, and Knock-out Tank

11-26-97

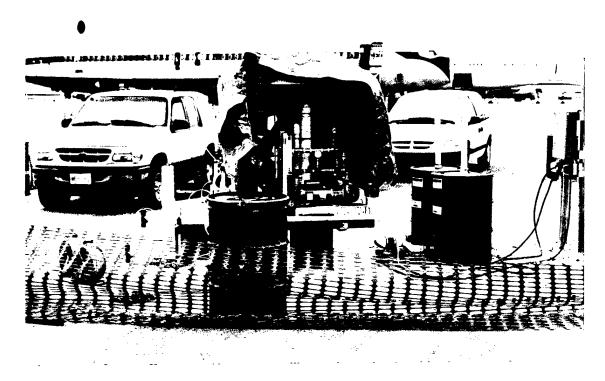


Photo 21: SVE and AS Trailer with Carbon Treatment System and Electrical Connection 11-26-97



Photo 22: Field Parameter Monitoring Equipment Set-up in Truck 12-5-97

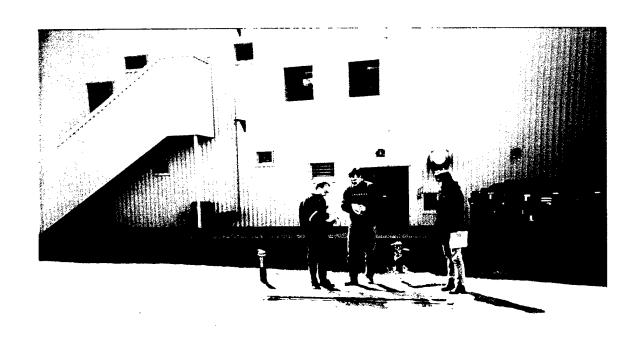


Photo 23: Site SS-08 Location B (Hot Spot 3) with Ex. Groundwater Monitoring Wells H2S and H2D

5-21-97



Photo 24: Site SS-08B, at the NE Corner of Hangar Building 5063 5-21-97

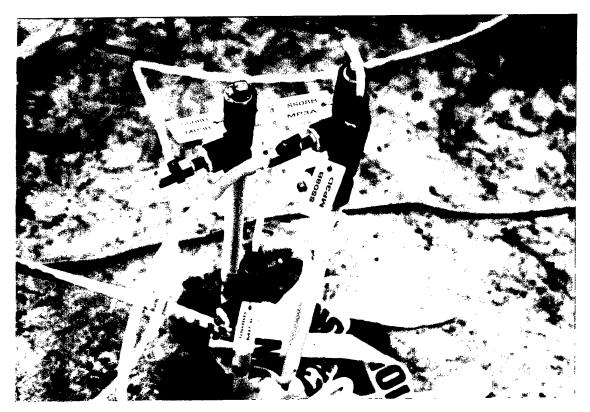


Photo 25: Soil Vapor Monitoring Test in Progress (Field Measurements of Various Gases)

12-3-97



Photo 26: Groundwater Monitoring Test in Progress (Water Quality Indicator Parameter Measurement)

12-3-97

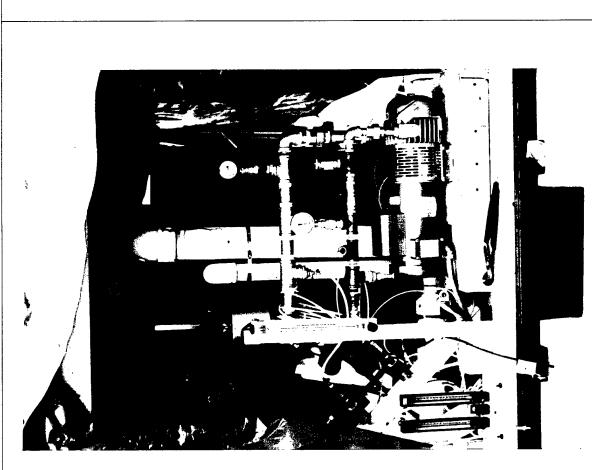


Photo 27: Air Sparging Test at SS-08B (See Solenoid Valve, 12-5-97 Air Blower and Various Gauges)

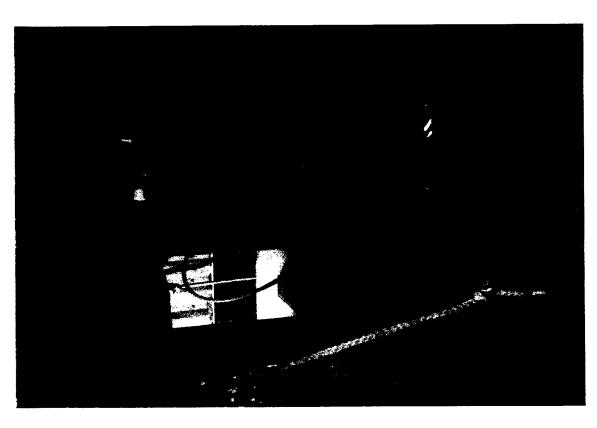


Photo 28: Helium and Sulfur Hexafluoride Flow Meters 12-5-97



Photo 29: Site SS-08B Sparge Well and MP1 Well Cluster 12-5-97 Air Sparging in Progress (On and Off Cycle)

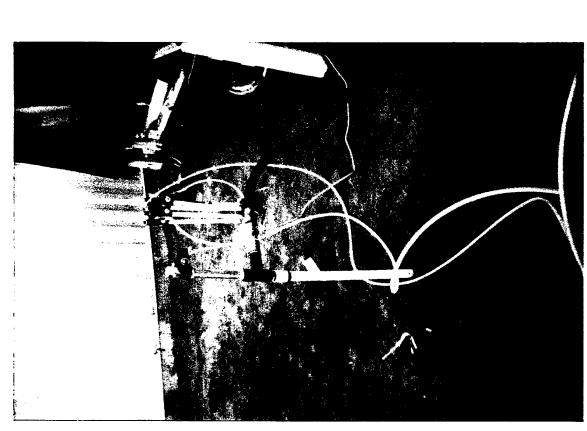


Photo 30: Trailer, He & SF6 Gas Cylinders and 12-5-97 MP3 Well Cluster

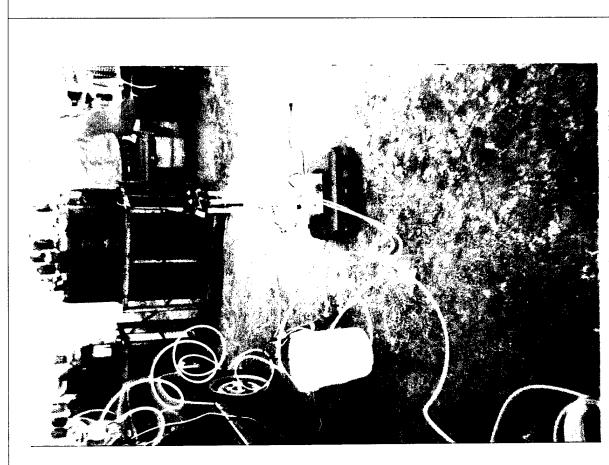


Photo 31: Groundwater Sampling Pump and Flow Cell 12-5-97

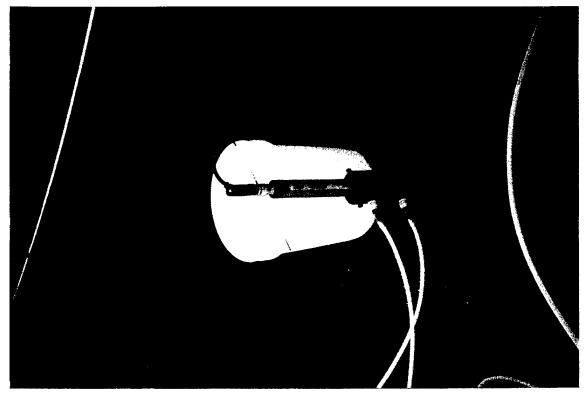


Photo 32: YSI Flow Cell with Tubing Connections 12-5-97

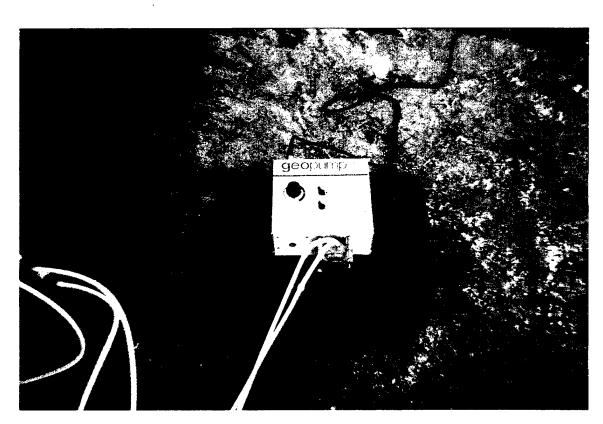


Photo 33: Peristaltic Groundwater Sampling Pump

12-5-97

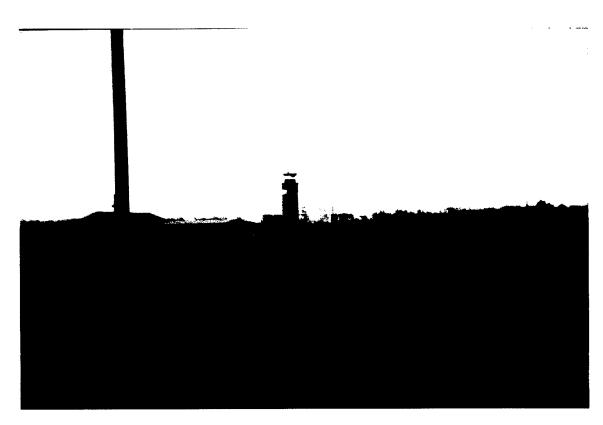


Photo 34: Drummed Soil Cuttings from Site SS-08B, Moved and Stockpiled at 5092 (Sunrise Behind Wurtsmith Tower)

12-4-97